SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Wayne P. Allen
Principal Manager
Regulatory Support Services

Electronically Filed March 4, 2022

March 4, 2022

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: **Kern River No. 3 Hydroelectric Project, FERC Project No. 2290-122; Proposed Study Plans and Responses to FERC's Additional Information Request**

Dear Secretary Bose:

Southern California Edison Company (SCE or Licensee) is the owner and operator of the Kern River No. 3 (KR3) Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 2290. Pursuant to Section 5.11(a) of the Commission's regulations, 18 C.F.R. 5.11(a), SCE hereby files this Proposed Study Plan (PSP) for relicensing the Project.

On September 22, 2021, SCE filed a Notice of Intent (NOI) and Pre-Application Document (PAD) for its continued operation and maintenance of the Project, and on November 22, 2021, FERC issued Scoping Document 1 (SD1) to begin the environmental review process under the National Environmental Policy Act (NEPA). SD1 provided interested parties with FERC's preliminary list of issues and alternatives to be addressed in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) that FERC will issue in support of its relicensing decision. FERC's SD1 solicited comments on the PAD and recommendations on additional Study Requests by January 20, 2022.

Numerous comments were submitted to FERC in response to SCE's PAD and FERC's SD1, including several new studies requested by Stakeholders. SCE has addressed those specific study requests in this PSP, either as a modification to a draft Study Plan included in the PAD, as a new Study Plan, or by specifically noting why a study request was not adopted. Enclosure A of this filing also contains SCE's response to FERC's Additional Information Request (AIR) issued on January 13, 2022.

In response to Stakeholder study requests, SCE is proposing 15 studies to be conducted to inform FERC's assessment of environmental effects, as well as federal and state resource decisions in the relicensing effort.

- Water Quality Study
- Hydrology Study
- Foothill Yellow-legged Frog Study
- Western Pond Turtle and Special-status Salamander Study
- General Wildlife Resources Study

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- General Botanical Resources Study
- Whitewater Boating Study
- Recreation Facilities Use Assessment Study
- Existing Recreation Facilities Condition Assessment Study
- Cultural Resource Study
- Tribal Resource Study
- Road Condition Assessment Study
- Erosion and Sedimentation Study
- Socioeconomic Study
- Tunnel Assessment Study

Each of the proposed studies is described in detail in Attachment 1 of the enclosed PSP.

As required by 18 CFR § 5.11(e), SCE will hold a Proposed Study Plan Meeting required by the Integrated Licensing Process (ILP) within 30 days following the deadline for filing the PSP. The meeting will be conducted virtually on **March 22, 2022, via Microsoft Teams**. The meeting will cover the following topics: (1) clarify SCE's PSP; (2) discuss information gathering or study requests; and (3) attempt to resolve any outstanding issues with respect to SCE's PSP. Meeting log-in information, detailed meeting agenda, and other applicable meeting materials will be uploaded to the Project's relicensing website at www.sce.com/kr3 prior to the meeting.

In accordance with FERC's Process Plan and Schedule included in SD1, Stakeholders have until June 4, 2022, to file comments on the PSP, after which SCE will file a Revised Study Plan (RSP) by July 4, 2022. Following SCE's filing of the RSP, FERC's Study Plan Determination is expected by August 3, 2022.

This PSP and all relevant relicensing documents for the Project are available on SCE's KR3 Project relicensing website (www.sce.com/kr3). In addition, the PSP is available on FERC's eLibrary.

SCE looks forward to working with FERC and other interested parties on the KR3 Project relicensing. Should there be any questions or concerns regarding this filing, please contact David Moore, SCE Senior Project Manager, by phone at (626) 302-9494 or via email at david.moore@sce.com.

Sincerely,

Southern California Edison Company

DocuSigned by:
Wayne Allen
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Enclosures:

- Enclosure A – Proposed Study Plan and Responses to FERC's Additional Information Request

cc: Distribution List

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PROPOSED STUDY PLAN AND RESPONSE TO FERC'S ADDITIONAL INFORMATION REQUEST

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

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March 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

AW	American Whitewater
BMP	best management practices
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic feet per second
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
ILP	Integrated Licensing Process
ISR	Initial Study Report
KR3	Kern River No. 3
MW	megawatt
NEPA	National Environmental Policy Act
NFKR	North Fork Kern River
NOI	Notice of Intent
NPS	National Park Service
PAD	Pre-Application Document
PM&E	Protection, Mitigation, and Enhancement;
PSP	Proposed Study Plan
PUD	public utility district
RSP	Revised Study Plan
SCE	Southern California Edison Company
SD1	Scoping Document 1
State Water Board	State Water Resources Control Board
SQF	Sequoia National Forest
TWG	Technical Working Group
USFS	U.S. Forest Service
USR	Updated Study Report

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1.0 INTRODUCTION AND PROJECT BACKGROUND

1.1. INTRODUCTION

Southern California Edison (SCE) Company is the Licensee, owner, and operator of the Kern River No. 3 (KR3) Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 2290. SCE currently operates the Project under a 30-year license that was issued by FERC on December 24, 1996 (77 FERC ¶ 61,313), which was subsequently amended in 1997 (81 FERC ¶ 61,162), 2004 (107 FERC ¶ 62,136), and 2019 (166 FERC ¶ 62,049). Because the current license will expire on November 30, 2026, SCE is seeking a license renewal for continued operations and maintenance of the Project.

SCE is committed to providing safe, reliable, affordable, and clean power for southern California. Sustainability is at the core of SCE's vision to lead the transformation of the electric power industry toward a clean energy future. The KR3 Project, on average, generates 120,375 megawatt-hours annually, thereby providing significant value to the state of California by providing carbon-free capacity and energy to the local communities of Kern and Tulare Counties. The Project operates as a run-of-river facility with little to no storage; however, it has the capacity to generate electricity 24 hours per day, 7 days per week, making it much more dependable than similar-sized wind and solar power, which are not consistently available. Additionally, the Project adds to the generation portfolio supporting the local community, which is more efficient than importing power from the grid through Isabella Substation because it is not subject to the losses associated with stepping up the voltage for transmission and then stepping it back down for distribution. Despite its lower generation capacity when compared to SCE's larger hydroelectric projects, the Project provides critical generation to Kern and Tulare Counties, which would otherwise have to rely on power transmitted from Vestal Substation, approximately 40 miles away, at a significant cost to customers.

Moreover, along with the rest of SCE's hydropower portfolio, the KR3 Project contributes to the decarbonization goals set forth in CA 2030, CA 2045, and SB100. As California expects to double its energy demand over the next 20 years, hydropower facilities such as the KR3 Project will continue to provide dependable capacity that is essential to balancing more intermittent renewables such as wind and solar.

Finally, SCE is in the preliminary stages of relicensing its FERC-issued license for the Project, pursuant to which it proposes to continue Project operations without any significant modifications.

On September 22, 2021, SCE filed a Notice of Intent (NOI) and Pre-Application Document (PAD) to initiate the Integrated Licensing Process (ILP) to obtain a new license for the KR3 Project. On November 21, 2021, FERC issued Scoping Document 1 (SD1) with the intention to advise all interested parties of the proposed scope of FERC's National Environmental Policy Act (NEPA) document and solicited comments and suggestions on the preliminary list of issues and alternatives to be addressed in the NEPA document. FERC also requested interested parties to identify any studies that would help provide a

framework for collecting pertinent information on the resource areas under consideration for FERC's NEPA document with a deadline of January 20, 2022, to file comments.

In lieu of an in-person site visit, FERC held daytime and evening virtual Scoping Meetings on December 14, 2021. Transcripts of the meetings can be found on FERC's eLibrary at eLibrary | File List (ferc.gov). FERC noted at these meetings that SCE uploaded a drone video of the Project Area and encouraged Stakeholders to visit the Project's website at www.sce.com/kr3.

A number of resource agencies and other relicensing Stakeholders filed comments on SD1 regarding Project decommissioning and socioeconomics. In response to these comments, SCE filed a Response to Comments with FERC on February 24, 2022, prior to FERC's issuance of Scoping Document 2.

This Proposed Study Plan (PSP) provides FERC, regulatory agencies, Tribes, and other Stakeholders with SCE's proposed studies (Attachment 1). The PSP also addresses comments received on the draft Study Plans submitted with the PAD and new study requests submitted by agencies and interested parties.

Pursuant to the Code of Federal Regulations, Title 18, Section 5.11(a) (18 CFR § 5.11(a)), SCE is filing this PSP with FERC within 45 days following the deadline for comments. This PSP response follows the content and form requirements of 18 CFR § 5.9(b) with minor changes in form for enhanced readability.

FERC also issued a Request for Additional Information regarding information included in the Licensee's PAD on January 13, 2022, with a due date to submit the requested information by March 6, 2022. The requested information can be found in Section 3.0 of this document.

1.2. PROJECT DESCRIPTION

The Project is located on the North Fork Kern River (NFKR), and on Salmon and Corral Creeks, near the town of Kernville in Kern and Tulare Counties, California, approximately 40 miles northeast of Bakersfield, California. The closest towns to the Project are Kernville, Woodford Heights, and Lake Isabella.

Project facilities are primarily located on federal lands within Sequoia National Forest (SQF), with a small amount within SCE ownership around the powerhouse. The Project is a run-of-river project with no water storage and a total installed capacity of 40.2 megawatts (MW). Primary Project features include a primary intake diversion dam, water conveyance system consisting of concrete-lined arched tunnels, covered and open concrete box flumes, a metal siphon, two smaller diversions and conduits, a forebay, two penstocks, and a powerhouse (Figure 1.3-1).

Water from the NFKR is diverted at Fairview Dam and directed through a concrete structure, or sandbox, where sediment is allowed to settle out of the water before entering the Project's conveyance system. From the sandbox, water flows into a conveyance system comprised of 60,270 feet of tunnels, 4,600 feet of concrete flumes, and 1,146 feet

of siphon that run along the hillside on the eastern side of the NFKR. The Project also captures flows from two intermediate tributaries, Salmon Creek and Corral Creek, via two diversion dams. Diverted water within the conveyance system is directed to a small concrete forebay, two 2,500-foot-long penstocks, and then through two Francis reaction-type turbines located in the KR3 Powerhouse.

The conveyance system bypasses an approximately 16-mile reach of the NFKR between Fairview Dam and the KR3 Powerhouse tailrace (herein referred to as the Fairview Dam Bypass Reach). The Project also bypasses the lower 0.4 mile of Salmon Creek and 1.1 miles of Corral Creek between their diversions and confluences with the NFKR. At the southern end of the Project, the KR3 Powerhouse is located approximately 2 miles north of Kernville in Kern County.

In 1987, Congress designated the NFKR from the Kern/Tulare County Line up to the headwaters in Sequoia National Park as “Wild and Scenic River” (Public Law No. 100-174, 101 Stat. 924 [1987]). Some portions of the water conveyance system and Project access roads fall within the Wild and Scenic River corridor quarter-mile buffer. Project amenities south of the Cannell Creek-NFKR confluence, such as the pressure flume, forebay, penstocks, and KR3 Powerhouse are not located within the Wild and Scenic River corridor.

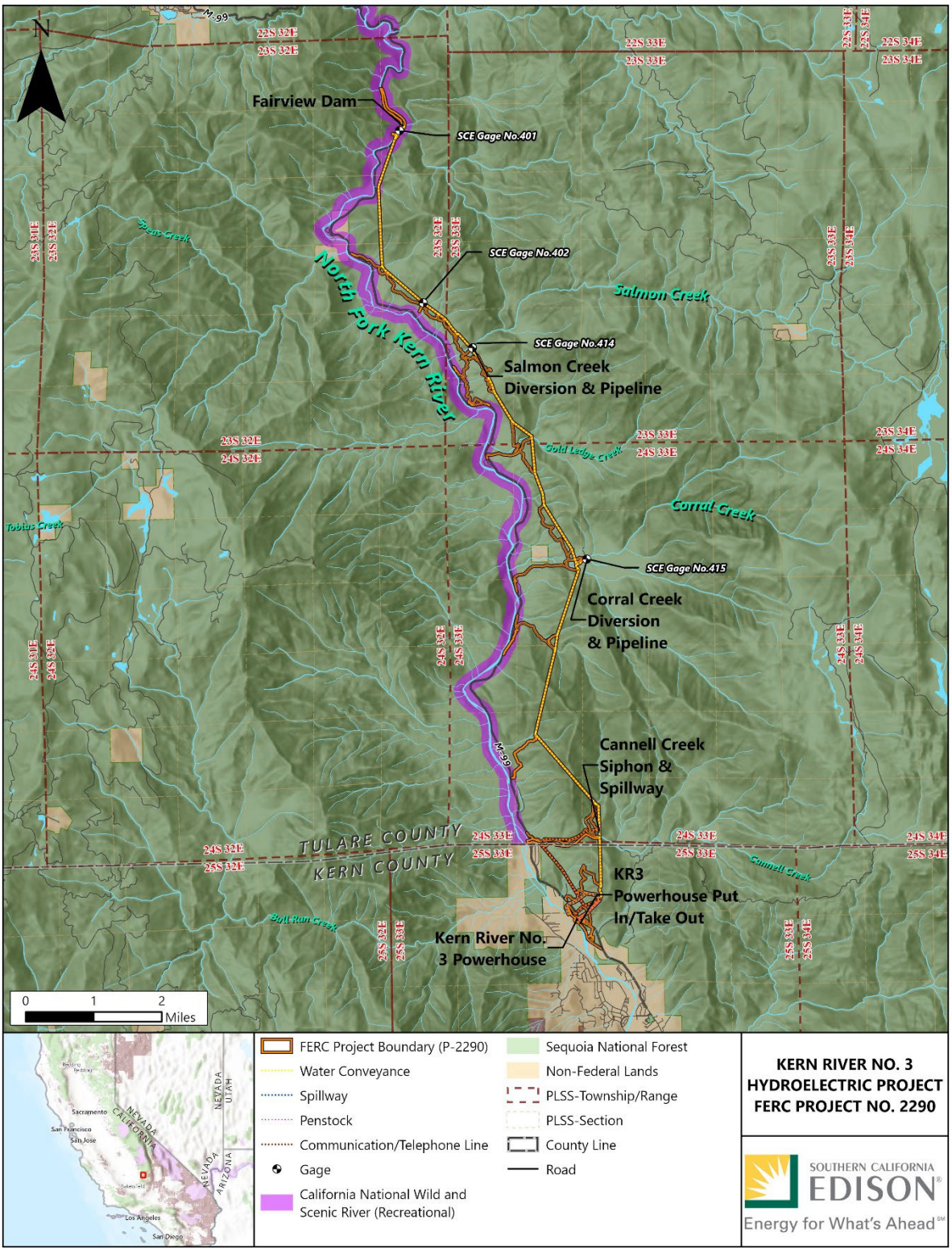

Figure 1.3-1. Kern River No. 3 Hydroelectric Project Map.

1.3. STUDY PLAN OVERVIEW

1.3.1. PROCESS PLAN AND SCHEDULE THROUGH FILING OF LICENSE APPLICATION

Pursuant to 18 CFR § 5.12, comments on this PSP, including any additional or revised study requests, must be filed with FERC within 90 days of the filing date—therefore, no later than June 4, 2022. Comments must include an explanation of any study plan concerns and any accommodations reached with SCE regarding those concerns (18 CFR §5.12). Any proposed modifications to this document or the PSPs must address FERC's criteria as presented in 18 CFR §5.9(b). As necessary, SCE will prepare a Revised Study Plan (RSP) document to address comments received to the extent practicable. In accordance with the ILP schedule, SCE will file the RSP with FERC no later than July 4, 2022, and FERC will issue a Study Plan Determination by August 3, 2022.

The Process Plan and Schedule, outlined in Table 1.4-1, depicts the schedule for Study Plan development using timeframes set forth in 18 CFR Part 5, *Integrated License Application Process*. Within the Process Plan and Schedule table, bold type highlights the major milestones; shaded milestones identify the steps in the study dispute process that would be unnecessary if no disputes arise.

Table 1.4-1. Kern River No. 3 Hydroelectric Project Relicensing—Study Plan Process Plan and Schedule [a,b]

FERC 18 CFR §	Relicensing Activity	Responsible Party	Activity Time Frame	Deadline [c,d]
Study Plan Development				
5.11 5.12	**PSP and Study Requests**			
5.11	**File PSP**	SCE	Within 45 days following the deadline for filing of comments on the PAD and providing study plan requests	3/6/2022
5.11(e)	**Conduct Initial Study Plan Meeting**	SCE	No later than 30 days after the deadline date for filing the PSP	4/5/2022
5.12	File comments on PSP or submit revised study requests	Participants	Must be filed within 90 days after the PSP is filed	6/4/2022
5.13	**RSP and Study Plan Determination**			
5.13(a)	File RSP	SCE	Within 30 days following the deadline for filing comments on the PSP	7/4/2022
5.13(b)	File final comments on RSP	Participants	Within 15 days of filing the RSP	7/19/2022
5.13(c)	Issue Study Plan Determination	FERC	Within 30 days of filing the RSP	8/3/2022
5.13(d) 5.14(a)	File notice of study dispute	Mandatory Conditioning Agencies	Within 20 days of the Study Plan Determination	8/23/2022
5.13(d)	Study Plan approved, if no notice of study dispute is filed	FERC	20 days following the notice of study plan dispute filing period	8/23/2022
5.14	**Formal Study Dispute Resolution Process**			
5.14(d)	Convene Dispute Resolution Panel, if notice of Study Plan dispute is filed	FERC	Within 20 days of the notice of study dispute	9/12/2022

FERC 18 CFR §	Relicensing Activity	Responsible Party	Activity Time Frame	Deadline [c,d]
5.14(i)	File with FERC and serve upon panel members comments and information regarding dispute	SCE	No later than 25 days following the notice of study dispute	9/17/2022
5.14(k)	Issue findings and recommendations regarding the Study Plan dispute to Director of the Office of Energy Projects	Dispute Resolution Panel	No later than 50 days following the notice of study plan dispute	10/12/2022
5.14(l)	**Issue Written Determination on Study Plan Dispute**	FERC	No later than 70 days following filing of the notice of study dispute	11/1/2022

CFR = Code of Federal Regulations; FERC = Federal Energy Regulatory Commission; NOI = Notice of Intent; PAD = Pre-Application Document; PSP = Proposed Study Plan; RSP = Revised Study Plan; SCE = Southern California Edison

Notes:
[a] Relicensing activities that are shown in bold represent key milestone activities in the relicensing process.
[b] Shaded milestones represent the steps in the study dispute process that are unnecessary if no disputes arise.
[c] Dates indicate the day or time frame within which an activity must occur in accordance with 18 CFR Part 5 based on a September 22, 2021, filing date for the NOI/PAD.
[d] If the deadline falls on a weekend, part-day holiday, or legal public holiday, the deadline is extended to the next business day.

1.3.2. PROPOSED STUDY PLAN MEETING

Pursuant to 18 CFR § 5.11(e), SCE will hold a virtual study plan meeting on **Tuesday March 22, 2022** to (1) clarify SCE PSPs, (2) discuss information gathering or study requests, and (3) attempt to resolve any outstanding issues with respect to the PSPs.

Meeting log-in information, detailed meeting agenda, and other applicable meeting materials will be uploaded to the Project's relicensing website at www.sce.com/kr3 prior to the meeting.

2.0 COMMENTS AND STUDY REQUESTS

2.1. OVERVIEW OF STAKEHOLDER COMMENTS

In SD1, FERC requested interested parties to identify any studies that would help provide a framework for collecting pertinent information on the resource areas under consideration for FERC's NEPA document with a deadline of January 20, 2022, to file comments. Between December 20, 2021, and January 21, 2022, 66 comment letters were filed with FERC by interested parties. Comments were received from federal and state agencies; non-governmental organizations; and local businesses, interest groups, or individual members of the public, collectively referred to as Stakeholders. The list of Stakeholders who filed comments are provided in Attachment 2 of this PSP; copies of their comment letters can be accessed through FERC's eLibrary at https://elibrary.ferc.gov/eLibrary/search by searching under Docket P-2290.

SCE acknowledges and appreciates the time and effort taken by all Stakeholders to submit comments regarding the Project relicensing. While SCE reviewed all comments and requests for additional information or studies, this PSP filing focuses on study modification requests associated with SCE's draft Study Plans presented in the PAD and any new Study Plans requested by Stakeholders.

Comments submitted on the PAD that provide additional details or requested clarifications about the Project or provide corrections to information provided in the PAD are appreciated by SCE. These comments will be used to inform the development of Study Plans and future licensing documents. Any corrections to information presented in the PAD will be reflected in future filings prepared by SCE.

2.2. SCE PROPOSED STUDY PLANS

The studies proposed by SCE in this PSP are intended to collect information and data to inform the assessment of Project-related resource effects (if any) for inclusion in the Draft and Final License Applications, FERC's NEPA document (either an Environmental Assessment or Environmental Impact Statement), and eventual license conditions. SCE proposes the 15 Study Plans listed in Table 2.2-1, including the 10 draft Study Plans that SCE filed with the PAD, and 5 new Study Plans. Copies of the Study Plans are provided in Attachment 1.

Table 2.2-1. SCE Proposed Study Plans

Study Plan Title	Modified from Draft or New Study Plan
WR-1 Water Quality (Previously titled: WR-1 Water Temperature and Dissolved Oxygen)	Modified from Draft
WR-2 Hydrology	Modified from Draft
BIO-1 Foothill Yellow-legged Frog	Modified from Draft
BIO-2 Western Pond Turtle and Special-Status Salamanders	Modified from Draft
BIO-3 General Wildlife Resources	Modified from Draft
BOT-1 General Botanical Resources	Modified from Draft
REC-1 Whitewater Boating	Modified from Draft
REC-2 Recreation Facilities Use Assessment	Modified from Draft
REC-3 Existing Recreation Facilities Condition Assessment	New Study Plan
CUL-1 Cultural Resource	No Significant Changes from Draft
TRI-1 Tribal Resource	No Significant Changes from Draft
LAND-1 Road Condition Assessment	New Study Plan
GEO-1 Erosion and Sedimentation	New Study Plan
SOCIO-1 Socioeconomic Analysis	New Study Plan
OPS-1 Tunnel Assessment	New Study Plan

2.3. STUDY PLAN COMPONENTS

The individual Study Plans include the following information:

- **Potential Resource Issue(s)** – This section identifies the environmental or cultural resource issues that are specifically addressed in the Study Plan.
- **Project Nexus and How the Results will be Used** – This section identifies the nexus between Project operations and maintenance activities to the environmental or cultural resource issue(s). It also describes how the study results will be used to identify potential license conditions that may be necessary to address the issue(s).
- **Study Goals and Objectives** – This section describes the specific study objectives or goals of the study.
- **Study Area and Study Sites** – This section clearly identifies the limits of the study based on the potential Project Nexus for each study plan.

- **Existing Information** – This section briefly describes the existing information identified in the PAD, if any, including reference pages or literature relating to the issue, and describes the information gaps the study is intended to fill.

- **Study Approach** – This section provides a description of the study elements and methodologies proposed to meet each study objective.

- **Reporting** – This section includes a brief statement regarding how study results will be shared.

- **Schedule** – This section presents a schedule for implementation of each study.

- **Level of Effort and Cost** – This section includes a cost estimate (2022 dollars) to provide an understanding of the level of effort anticipated in the study.

- **References** – This section lists the appropriate technical references used within the plan.

Two additional study plan components that apply to all PSPs are addressed here, comprehensively, rather than within each study plan: (1) relevant resource agency jurisdiction/management goals and (2) consistency with generally accepted practice in the scientific community.

2.3.1. Relevant Resource Agency Jurisdiction/Management Goals

An overview of resource agency management goals that may be relevant to the Project relicensing are summarized in the subsections below by applicable jurisdictional agency. The Study Plans, as proposed in this PSP, have been designed with consideration to relevant resource agencies management goals with jurisdiction over the resource to be studied.

2.3.1.1. California Department of Fish and Wildlife

The Mission of the California Department of Fish and Wildlife (CDFW) is to manage California's diverse fish, wildlife, and plant resources and the habitats upon which they depend for their ecological values and for their use and enjoyment by the public. The CDFW maintains native fish, wildlife, plant species, and natural communities for their intrinsic and ecological value and their benefits to people. This includes habitat protection and maintenance in a sufficient amount and quality to ensure the survival of all native species and natural communities. The CDFW is also responsible for the diversified use of fish and wildlife including recreational, commercial, scientific, and educational uses.

2.3.1.2. California Office of Historic Preservation

The California Office of Historic Preservation is charged with ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid or minimize adverse effects to heritage resources. Section 106 of the National Historic

Preservation Act of 1966, as amended (54 United States Code § 300101 et seq.), requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.

In accordance with section 101(b)(3) of the National Register of Historic Places, the State Historic Preservation Office advises and assists federal agencies in carrying out their Section 106 (36 CFR § 800) responsibilities and cooperates with such agencies, local governments, and organizations and individuals to ensure that historic properties are taken into consideration at all levels of planning and development.

The regulations implementing Section 106 (36 CFR § 800) define "historic properties" as any pre-contact or historic period district, site, building, structure, or individual object included in or eligible for inclusion in the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within historic properties, as well as Traditional Cultural Properties that meet the National Register Criteria.

2.3.1.3. National Park Service

The National Park Service (NPS) has authority to consult with the FERC and applicants concerning a proposed project's effects on outdoor recreation resources under the Federal Power Act (18 CFR §§ 4.38(a), 18 CFR 5.41(f)(4)-(6), and 18 CFR 16.8(a)), the Outdoor Recreation Act (Public Law No. 88-29), and the NPS Organic Act (16 United States Code et seq.). It is NPS policy to represent the national interest regarding recreation and assure that hydroelectric projects subject to licensing recognize the full potential for meeting present and future public outdoor recreation demands while maintaining and enhancing a quality environmental setting for those projects.

2.3.1.4. Sequoia National Forest

Management activities on National Forest System Lands are performed in accordance with the National Forest Management Act (Public Law No. 94-588 [1976]); *Sequoia National Forest Land and Resource Management Plan* (USFS, 1988), and as amended in 1990 by the *Sequoia National Forest Land Management Plan Mediated Settlement Agreement* (USFS, 1991) and by the 2004 *Sierra Nevada Forest Plan Amendment* (USFS, 2004), commonly referred to as the 2004 Framework. Additional management goals of the SQF are included as part of the U.S. Forest Service (USFS) Handbook for the Pacific Southwest Region (R5).

North Fork Kern Wild and Scenic River is managed under the *Comprehensive Management Plan—North and South Forks of the Kern Wild and Scenic River* (USFS, n.d.). The Fairview Dam Bypass Reach is located within the Kern Wild and Scenic River with an opportunity class of "Recreation." Management emphasis is to provide a variety of recreation opportunities that are compatible with a Wild and Scenic River "Recreation" designation. Roads and trails will be maintained for resource protection, user safety, and convenience.

2.3.1.5. State Water Resources Control Board

A certification issued by the State Water Resources Control Board (State Water Board) for the Project must ensure compliance with the water quality standards in the Central Valley Regional's *Water Quality Control Plan for the Tulare Lake Basin* (CRWQCB, 2018). Water quality control plans designate the beneficial uses of water that are to be protected, water quality objectives for the reasonable protection of the beneficial uses and the prevention of nuisance, and a program of implementation to achieve the water quality objectives. (California Water Code, §§ 13241, 13050, subds. (h), (j).) The beneficial uses, together with the water quality objectives contained in the water quality control plans and applicable anti-degradation requirements, constitute California's water quality standards for purposes of the Clean Water Act. In issuing water quality certification for a project, the State Water Board must ensure consistency with the designated beneficial uses of waters affected by the project, the water quality objectives developed to protect those uses, and anti-degradation requirements (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 714-719).

2.3.1.6. U.S. Fish and Wildlife Service

Working with others to conserve, protect, and enhance, fish, wildlife, plants, and their habitats for the continuing benefit of the American people reflects the value the agency places on working in partnership with others. As the principal federal partner responsible for administering the Endangered Species Act, the U.S. Fish and Wildlife Service leads the recovery and conservation of imperiled species through protection of endangered and threatened species and conservation of candidate species and species-at-risk.

2.3.2. Consistency with Generally Accepted Practice in the Scientific Community

The study methodologies (including data collection and analysis techniques, field schedules, and study durations) identified in the PSPs are consistent with generally accepted practice in the scientific community. The scope of each PSP is consistent with common approaches used for other relicensing proceedings in California and the nation, and where appropriate, reference-specific protocols and survey methodologies.

2.4. SCE Draft Study Plans

In the PAD filed September 22, 2021, SCE included ten draft Study Plans based on the resource issues and additional information needs identified during early outreach and engagement with Stakeholders. In this PSP, these ten Study Plans have been updated to include the FERC-required Study Plan components, as noted above in Section 2.3; revised to address specific comments or recommendations stated in the comment letters; and/or updated to incorporate additional study components.

Table 2.4-1 below presents the additional information and study modification recommendations submitted by Stakeholders. SCE has provided a response that addresses how comments were incorporated in the Study Plan and/or their rationale for not including a specific recommendation.

Table 2.4-1. SCE Draft Study Plans with Stakeholder Proposed Modifications

SCE Proposed Study	Stakeholder	Comment	SCE Response to Comment and/or Summary of Changes
WR-1 Water Quality (previously titled: Water Temperature and Dissolved Oxygen)	SQF	• 6.0 Study Approach should include specific language about placement of data loggers. Data loggers should be placed in the thalweg of the stream or river. • 6.0 Study Approach should state that data loggers will be monitored to ensure that they are submerged and not in a location that has dried out or receives full sun throughout the day. If these things happen, the data loggers should be re-positioned. • 6.0 Study Approach should specify additional data summary such as median, mode, and 95% confidence interval.	The suggested changes have been incorporated into *WR-1 Water Quality* with minor modifications: Data loggers will be placed in locations with sufficient circulation yet protected from high scouring flows; loggers will be checked approximately monthly, and redundant thermographs will be deployed at each location to protect against the potential for data logger tampering.
	State Water Board	Attachment A-Comments on the Pre-Application Document for Kern River No. 3 Hydroelectric Project General Comments: 3. In section 5.2.4.1. Water Quality Objectives from Basin Plan on page 5-39, the PAD states that Salmon Creek and Corral Creek were found to have impaired water quality. The State Water Board requests that SCE include information detailing if any Project waters are listed under the Clean Water Act Section 303(d) list of impaired and threatened waters in the Draft License Application. 4. In section 5.2.4.4 Additional Water Quality Parameters on page 5-45, the PAD states that the Draft License Application in 1990 identified dissolved oxygen, coliform, total suspended solids (TSS), and arsenic as being water quality parameters of potential concern. It appears that these parameters have not been monitored since the early 1990's. The State Water Board requests that SCE include monitoring of all above-mentioned water quality parameters in the WR-1 study.	Dissolved oxygen and temperature monitoring are included in WR-1 to better understand current conditions for these parameters. Variations in water temperature and dissolved oxygen were investigated in detail during the prior relicensing process. Project operations were found to influence water temperature in the bypass reach, and a minimum flow was implemented to maintain reduced water temperatures within the reach. Project operation was found to have little effect on dissolved oxygen. No Project waters are included in the Clean Water Act Section 303(d) list of impaired or threatened waters. The Project does not contribute to arsenic or total suspended solids. These parameters were measured during the prior relicensing study efforts and were found to be related to upstream watershed conditions; the Project was found to not contribute to arsenic or total suspended solids, and no further monitoring was required. Previous fecal coliform samples identified elevated concentrations in Salmon Creek and in the NFKR between Salmon Creek and Corral Creek, likely from animal sources. Because no recent sampling information has been collected in the Fairview Dam Bypass Reach, sampling within the NFKR for recreation-related fecal coliform has been added to WR-1.
	EPA	Detailed Comments on Scoping Document 1 **Water Resources** For the NEPA analysis, we recommend that FERC require a baseline analysis of water quality, including collection of dissolved oxygen, temperature, and other parameters that are considered naturally occurring. Water quality monitoring data should be collected at enough frequency and duration to capture natural fluctuations due to seasonal changes in hydrology.	See response to SQF and State Water Board's comments above.
WR-2 Hydrology	State Water Board	Attachment A-Comments on the Pre-Application Document for Kern River No. 3 Hydroelectric Project General Comments: 2. In section 5.2.3.3. Hydrology on page 5-23, the PAD states that "The complete period of record (POR) dataset provides a reference to long-term climatic conditions but does not necessarily reflect current flow levels downstream of Fairview Dam." Does SCE have a clear understanding of flows in this area? The State Water Board requests that more information be included in the Draft License Application on how SCE measures flows below the Fairview Dam.	SCE has expanded the Study Approach presented in WR-2 to include a brief description of data analyses to be included as part of this Study Plan. SCE clarified the hydrology analysis will include available hourly flow data from the current license term (WY 1997 – WY 2021) and will be of sufficient scale and duration to depict diurnal patterns of snowmelt and annual variability in water year types.
BIO-1 Foothill Yellow-legged Frog	SQF	• 6.0 Study Approach should specify methodology for sampling larvae and adults • 6.0 Study Approach should incorporate acoustic sampling to detect calling adult males during the breeding season. • 6.0 Study Approach should specify the use of cover boards to increase detection probabilities.	The Study Approach has been updated to: • Clarify that Visual Encounter Surveys (VES) will include larvae as well as juveniles and adults. • Provide additional information about the number and timing of eDNA samples; eDNA samples will be collected during a single event in the breeding season, timed to coincide with the VES. However, the actual

SCE Proposed Study	Stakeholder	Comment	SCE Response to Comment and/or Summary of Changes
		• 6.0 Study Approach should specify the use of gloves and other protective measures and Best Management Practices (BMPs) to guard against the transmission of chytridiomycosis. • 6.0 Study Approach should provide more detail about the number and timing of eDNA samples. • 6.0 Study Approach emphasizes high quality habitat, but low-quality habitat should be investigated to determine whether animals are using sink habitats and whether habitat can be mitigated to improve recruitment.	number of survey sites will depend on the results of the habitat assessment. • Include additional language regarding protective measures and BMPs to guard against the transmission of chytridiomycosis. BIO-1 outlines standard Foothill Yellow-legged Frog (FYLF) survey protocols for VES and eDNA sampling intended to increase the probability of detection, should FYLF be in the survey area (FYLF have not been observed in the Project Area for 50 years [since 1972]). Additional methods proposed (e.g., the use of cover boards and/or acoustic sampling to detect calling adult males) are not standard FYLF sampling protocols. The study will first evaluate habitat suitability in the Project Area and determine whether FYLF habitat may be present. For sampling, SCE is targeting high-quality habitat, as those areas have the highest probability of detection for eDNA collection. However, sites with moderate then low suitability will be selected if highly suitable sites are not identified.
BIO-2 Western Pond Turtle and Special-Status Salamanders	SQF	Comment on Scoping Document 1 • Add effects of continued project operations on Fairview slender salamander (Batrachoseps bramei) and Greenhorn Mountains Slender Salamander (Batrachoseps altasierrae) to 4.1.4 Terrestrial Resources. This necessitates the expansion of study BIO-2 for both species. Comment on Draft Study Plan • 6.0 Study Approach should incorporate acoustic sampling to detect calling adult males during the breeding season. • 6.0 Study Approach should specify the use of cover boards to increase detection probabilities. • 6.0 Study Approach should specify the use of gloves and other protective measures and BMPs to guard against the transmission of chytridiomycosis. • 6.0 Study Approach mentions searching for target organisms under loose bark, but this should be avoided (preferable) or limited (next best) to minimize destruction of a very rare habitat type. • Frogs/ Salamanders/ Turtles – Need more than one site visit in the active season to confirm presence/ absence. How many acres of aquatic habitat have been degraded due to increased flow incising highly suitable habitat, degrading it to moderate suitability? (Or moderate to low suitability?) What effects have been observed by flushing the sandbox in the North Fork Kern River bypass? What about the effects of flow fluctuations, temperature, or dissolved oxygen? Is there any plan to offset degraded habitat? The survey plan should not just identify presence/ absence in high suitable areas before licensing, but also follow-up every 5 years to assess habitat changes.	BIO-2 has been updated to include *Batrachoseps altasierrae* in the list of special-status slender salamanders in the Project study area; Fairview slender salamander (*Batrachoseps bramei)* was previously identified and included as part of this study. The Study Approach in BIO-2 was clarified to include: • Incidental observations and record of all amphibians encountered. Slender salamanders will be identified to species in the field to the extent possible; they will not be collected for later identification. • Use of cover boards. • Use of protective measures and other BMPs when conducting field surveys. • Disturbance of habits (e.g., overturning rocks, searching leaf litter) would be conducted in following Strain et al. (2009) and Grover (2006) protocols. SCE did not include acoustic sampling to detect calling adult males. This is not standard practice for sampling special-status salamanders and western pond turtles. Refer to SCE's response for *BIO-3 General Wildlife Resources* regarding acoustic sampling. The study results in conjunction with all the current and new data collected among the various resource areas will be analyzed, and any potential Project-related effects will be discussed in SCE's Application for New License. Any long-term monitoring will be evaluated and discussed as potential new license conditions.
BIO-3 General Wildlife Resources	SQF	PAD Comment • What about Forest Service SCC bats? Can they access any of the facilities? Study Plan Comments • 6.2 Field Surveys should specify use of acoustic surveys to detect passerine birds. • 6.2 Field Surveys should specify dusk or early evening for road cruising. • 6.2. Field Surveys should implement cover boards to increase detection of herps. • 6.2.2 Trail Camera Surveys should specify cameras with night capabilities	BIO-3 has been modified to include: • Incidental observations around Project out-buildings and other Project structures for signs of bat use. If evidence of bats is observed, SCE will consult with the SQF regarding the need for additional studies. While there is the potential for bats to have access to various Project buildings, SCE personnel have not noticed bats or evidence of bats. • Clarification that species habitat information and visual observations will occur in two phases. Phase 1 is to assess habitat to better focus survey

SCE Proposed Study	Stakeholder	Comment	SCE Response to Comment and/or Summary of Changes
		• Frogs/ Salamanders/ Turtles – Need more than one site visit in the active season to confirm presence/ absence. How many acres of aquatic habitat have been degraded due to increased flow incising highly suitable habitat, degrading it to moderate suitability? (Or moderate to low suitability?) What effects have been observed by flushing the sandbox in the North Fork Kern River bypass? What about the effects of flow fluctuations, temperature, or dissolved oxygen? Is there any plan to offset degraded habitat? The survey plan should not just identify presence/ absence in high suitable areas before licensing, but also follow-up every 5 years to assess habitat changes. • Birds – Recommend pedestrian callback or remote acoustical surveys for each species of concern, not just a visual search for direct signs (actual bird/ feather/ eggs). Include indirect signs, too (high quality habitat, nests, plucking posts). Birds can be secretive and hard to spot. A single drive-by may not be sufficient; multiple visits (once a week x 3 per species) or leaving a microphone out for the breeding season may be more effective. • Fisher – Four trail cameras do not seem sufficient, while a year seems a lot in one location. Maybe plan to move them more often to increase coverage. Reference the region's carnivore data as well. Consider the effects on habitat connectivity and travel corridors, not just denning habitat. Does the width or crossable depth of the water change due to the proposed action? Is habitat fragmentation likely to occur?	efforts in Phase 2. Phase 2 will include three replicate surveys in areas of suitable habitat for target species. The time of day when surveys would be performed was also noted. • Use of Cover Boards. • Additional information regarding number, location, and capabilities of trail cameras. SCE is proposing the use playbacks during bird surveys for the three listed riparian bird species and will notify U.S. Fish and Wildlife Service prior to conducting those surveys; however, SCE is not proposing protocol-level surveys nor the use of acoustic sampling for common songbirds. The study results, in conjunction with all the current and new data collected among the various resource areas, will be analyzed and any potential Project related effects will be discussed in SCE's Application for New License. Any long-term monitoring will be evaluated and discussed as potential new license conditions.
BOT-1 General Botanical Resources	SQF	• 6.2 Field Surveys should specify seasonal timing • 6.2. Field Surveys should specify whether Non-native Invasive Species (NNIS) plants will be removed and, if so, how.	BOT-1 has been modified to clarify the seasonal timing of field studies. Observations of Non-native Invasive Species will be recorded; however, field biologists will not remove any species as part of this Study Plan.
REC-1 Whitewater Boating	SQF	• Pg-2 it states Class III to Class VI- some rapids such as Rowdy Riffles and Brenda's Bend can be Class II depending on the water flow so Class III should be changed to Class II. There are also some unnamed rapids that are Class II or even Class I. • 4.0 Define why theses study sites were chosen	The range of whitewater difficulty has been revised in REC-1 to include Class II rapids. The whitewater difficulty of the respective river segments will be investigated during study implementation. Specific study sites were not listed in the draft Study Plan; the study area proposed for REC-1 includes the Fairview Dam Bypass Reach from Fairview Dam to the KR3 Powerhouse and the NFKR from the KR3 Powerhouse to the Kern River Park in Kernville.
REC-1 Whitewater Boating, cont.	NPS	The NPS reviewed the Draft Whitewater Boating Resource Evaluation Study, Annotated Study Plan Outline that was made available to stakeholders on SCE's website on April 30, 2021. We sent our review to SCE on May 17, 2021. In our review, we noted that the study approach outlined in the Boating Study Plan Outline deviated from the methods outlined in Whittaker et al.. (2005). The Applicant acknowledged receiving our review in Appendix A-2.2 of Volume II of the PAD, page 5, and replied that the study plan was revised for clarity. Refer to Rec-1: Whitewater Boating Resource Evaluation Study (Appendix E). However, the whitewater boating study presented in the PAD is essentially the same as the Annotated Study Plan Outline that the NPS provided the Applicant a review on May 17, 2021. The only notable change is that the terms "Level 1" and "Level 2" were exchanged with "Phase 1" and "Phase 2." These terms are often used interchangeably in whitewater boating studies that follow the guidelines provided in Whittaker, Shelby, and Gangemi (2005), although the guidelines use the term "Level." Since this was the only notable change in the study plan that the Applicant "revised for clarity," the NPS finds a need to reiterate our concern with the methods proposed in the study plan. The NPS notes that the study approach outlined in REC-1 Whitewater Boating Resource Evaluation Study Plan deviates from the methods outlined in Whittaker, Shelby, and Gangemi (2005), which are consistent with generally accepted practices in the scientific community and have been used in whitewater boating studies for numerous FERC hydropower-licensing projects. The methods described in the Whittaker et al.. (2005) involves a phased approach where the results of a "Level 1" assessment are used to determine whether a "Level 2" assessment is warranted, while the results of a "Level 2" assessment determines if a "Level 3" assessment is warranted. While SCE also proposed a "phased approach," it is in a greatly modified form. Level 1 of the phased approach in the Whittaker et al.. (2005) guide outline the "desk-top options," which include 1) literature review, 2) hydrology assessment, 3) structured interviews, recreation focus group, and stakeholder meeting, and 4) documenting identified needs and explicit criteria for progressing to Level 2 studies. In Draft REC-	The investigative tools described in Level 1 are limited to (1) literature review, (2) hydrology assessment, and (3) structured interviews; focus groups and Stakeholder meetings are not part of Level 1 investigations. Also, NPS's request to add a "Generation Value Assessment" in the Level 2 investigation is not supported by Whittaker et al. (2005). A statement of Project costs and financing will be discussed in SCE's Application for New License, Exhibit D.

SCE Proposed Study	Stakeholder	Comment	SCE Response to Comment and/or Summary of Changes
		3, Phase 1 consists of 1) literature review and 2) hydrology assessment, which is consistent with Whittaker et al..'s (2005) approach. However, Phase 2 in Draft REC-3 consists of 1) whitewater boating surveys and 2) whitewater focus groups, which is not consistent with Whittaker et al. (2005) – these study steps are part of the Level 1 assessment. In Whittaker et al.. (2005), Level 2 involves the "limited reconnaissance options," which includes site visits for boating feasibility assessments and expert judgement assessments. Level 2 also involves documenting identified needs and explicit criteria for progressing to Level 3 studies. Following this, Level 3 provides guidance for "intensive study options," which include 1) multiple flow reconnaissance assessments, 2) flow comparison surveys of experienced users, 3) controlled flow studies, and 4) supply and demand/use assessments. As identified above, the decision to conduct a Level 2 study would occur after careful scrutiny of the data gathered from the Level 1 study. Similarly, the decision to conduct a Level 3 study would occur after careful scrutiny of the data gathered from the Level 2 study. Making these decisions would generally include the involvement of agencies and other stakeholders who have an interest in the outcome. In Draft REC-3, the Applicant is, in essence, only proposing to conduct a Level 1 Assessment (albeit dividing it into "Phase 1" and "Phase 2") and provides no rationale for departing from Whittaker et al.. (2005). For more clarification on the generally accepted study methods for a comprehensive whitewater boating study, below is an outline of what such a study entails, including the options to conduct Level 2 and Level 3 assessments. A potential outcome of not following the generally accepted practices is a lack of sufficient data needed to make meaningful conclusions on existing and potential whitewater boating opportunities, which is essential in the FERC licensing process. The NPS also requests that the Applicant include an additional parameter in their Level 2 assessment (Generation Value Assessment), which is described below. Generation Value Assessment The rising availability of solar and wind energy or what is commonly known as the Duck Curve in energy markets necessitates a closer look at the generation value of hydropower during the daylight hours when whitewater flows can be provided.1 Specifically, the study should provide: • A summary of Hourly locational marginal pricing data for the past five years from the CAISO node where power is sold near the North Fork Kern River. (Assumed to be node TOT179A_7_N001) This information can be gathered from the CAISO website. • A summary of average monthly generation of the current license term. • A summary of monthly generation revenue from 2010-2021	
REC-1 Whitewater Boating, cont.	KRB	Edison proposes to compare recreation in the impaired flow stretch above the project powerhouse and the free-flowing stretch below the project powerhouse. This objective is problematic, for three reasons: • First, the two reaches demand much different skill levels. The stretch below the powerhouse requires little to no "boat control" — the ability to move a boat to particular positions in a rapid while navigating in turbulent and uneven flows. This is a difficult skill to master and one that separates boaters along a continuum from beginner to expert. The stretch below the powerhouse also presents a relatively small danger of a long, rocky, or dangerous swim. These are reasons that beginners begin boating whitewater and continue developing their boating skills in the stretch below the powerhouse. By contrast, the dewatered stretch above the powerhouse demands much greater boat control skills and presents much greater hazards. Since boater skill levels can best be represented on a declining distribution from beginner to expert, it is axiomatic that more boaters would be capable of recreating in the stretch below the powerhouse than the stretch above. • The second problem with the objective is that the character of the two stretches are quite divergent — indeed, the dewatered stretch is protected for its outstanding recreational values; the stretch below the powerhouse is not. The character of the two stretches — above being for people who have developed and honed whitewater skills, below being for people beginning to develop those skills — is markedly different. Moreover, the project's effects on the less valuable stretch are minor and fleeting and can be avoided if Edison, for instance, chose to dewater its conveyance for maintenance at sunset. The project's effects on the protected stretch, by contrast, are major and constant. The salient issue in this proceeding is to capture all of the project's effects on the protected stretch. • The third issue is that the plan proposes to compare the two stretches while different flow levels are in each. It makes no sense to compare the amount of recreation in a project-dewatered reach to an unimpaired reach	Comment Noted. REC-1 has been revised. An objective of the Study Plan is to document recreation opportunities and range of flows for whitewater recreation for the respective whitewater segments.

SCE Proposed Study	Stakeholder	Comment	SCE Response to Comment and/or Summary of Changes
		below when considering potential opportunities for mitigation of the effects of that project. A rational comparison would establish the same water level in both stretches — i.e., turn off the diversion — and publicize that fact at least a month prior to the event(s). Managing agencies cannot capture the full effect of the project on recreation in the dewatered stretch in a comparison with a project-affected day. The playing fields must be leveled with equal flows, and in a way that mimics what a whitewater rec flow schedule would entail — i.e., with public notice.	
REC-2 Recreation Facilities Use Assessment	NPS	Draft REC-2 should not be limited to assessing recreation facility use but should also include a facility inventory and condition assessment consisting of two steps: (1) site facility inventory and (2) field reconnaissance/condition assessment. a. Section 4.0 *Study Area and Study Sites* The study sites should not be limited to the sites listed in this section. Due to easy access and U.S. Forest Service lands comprising the shores of most of the Project bypass reach, whitewater boaters utilize a variety of put-in and take-out locations along the North Fork Kern River. Anglers, who should also be included in the study, are able to fish at multiple spots along the river. Study sites should thus be determined by the Recreation Technical Working Group with the option to further modify study sites if warranted. b. Section 6.1. *Visitor Intercept Survey* In addition to collecting data on who uses the recreation facilities, the timing of recreation use, and user motivation for going to the location, the visitor intercept survey should be crafted to collect additional information such as activity participation (e.g., boating and what type, fishing, swimming, tubing, etc.), accessibility needs, areas visited, group size, user conflicts, perceived crowding, visitor profile, visual impressions, and satisfaction with or desire for recreational opportunities and facilities in the Project area. The questionnaire should provide an opportunity for visitors to express any potential concerns over the current condition of and future possibilities for recreation and recreation facilities in the Project area. The draft visitor intercept survey should be shared with the Recreation Technical Working Group and other interested stakeholders for comment. In addition to collecting data on visitor use, data should also be collected on visitor numbers. While some of this data can be collected through existing information, such as from US Forest Service permits and local recreation outfitters, additional visitor use data needs to be collected using observational surveys. Observed recreation use occurring in the Project area based on observational surveys should be used to estimate existing use. Multiple observational surveys should be conducted year-round, with an emphasis on the summer and on holidays. Timing and sampling frequencies should be based on estimated use levels and the survey should be conducted at peak times during the day on different types of days (weekday, weekend, holiday). The observation data that should be recorded includes angler counts, boat counts, and vehicle counts.	SCE has prepared *REC-3 Existing Recreation Facilities Condition Assessment*, which includes a facility inventory and condition assessment. Refer to Attachment 1 for a copy of REC-3. SCE has modified REC-2 to include visitor surveys at developed campgrounds, day-use areas, and whitewater put-in/take out locations. SCE appreciates NPS's suggestions regarding the Visitor Intercept Survey questions and timings. Refer to *REC-2 Recreation Facilities Use Assessment* in Attachment 1 for a revised discussion around the development and timing of this study component. As SCE develops the survey questionnaire, Recreation TWG members will be provided an opportunity to comment and provide feedback on the questions prior to deploying the surveys.
CUL-1 Cultural Resource	SQF	The Forest Service believes the cultural resources study plans in the PAD are sufficient.	Comment Noted. Minor edits to *CUL-1 Cultural Resource* were made that included updates to the proposed schedule and cost to implement the study plan.
TRI-1 Tribal Resource	No Comments received		Minor edits to *TRI-1 Tribal Resource* were made that included updates to the proposed schedule and cost to implement the study plan.

BMP = best management practice; FYLF = Foothill Yellow-legged Frog; KRB = Kern River Boaters; NPS = National Park Service; SCE = Southern California Edison Company; State Water Board = State Water Resources Control Board; SQF = Sequoia National Forest; TWG = Technical Working Group; VES = Visual Encounter Surveys; WY = Water Year

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2.5. STAKEHOLDER NEW STUDY PLAN REQUESTS

As noted above in Section 2.1, a total of 66 comment letters were filed by Stakeholders in response to FERC's SD1. In SCE's review of Stakeholder comments, several Stakeholders included study requests that complied with FERC's seven Study Request Criteria. However, in an effort to be complete, SCE has attempted to document and evaluate all study requests submitted, including those that may not have fully complied with FERC's Study Request Criteria.

SCE has identified 16 new study requests (Table 2.5-1) and notes which of these are included in this PSP and which were not adopted; similar study proposals are combined as one proposed study. Additional details on the proposed studies included in this PSP are listed in Table 2.5-2. Studies not adopted are described in Section 2.5.2.

Table 2.5-1. Stakeholder Proposed New Study Requests and SCE's Determination

Stakeholder Proposed Study	Commenter	SCE's Determination
Aesthetic Flows	KRB	Not Adopted
Benthic Macroinvertebrate Assessment	SQF	Not Adopted
Comparative Whitewater Opportunities	KRB	Not Adopted
Conveyance, Forebay, and Penstock Safety	KRB	Not Adopted
Economic Study of Flow Related Recreation	NPS	Adopted with Modification (see *SOCIO-1 Socioeconomic Analysis*)
Enjoyable Angling Flows	KRB	Not Adopted
	KRFF	
Environmental Flow	KRB	Not Adopted
	KRFF	
Flow Travel Times	KRB	Adopted with Modification (see *WR-2 Hydrology*)
Recreation Facility Assessment	SQF	Adopted with Modification (see *REC-3 Existing Recreation Facilities Condition Assessment*)
Road and Facility Erosion Assessment	SQF	Adopted with Modification; (see *LAND-1 Road Condition Assessment* and *GEO-1 Erosion and Sedimentation*)
	State Water Board	

Stakeholder Proposed Study	Commenter	SCE's Determination
Water Quality	KRB	Not Adopted
Whitewater Recreation Study / Whitewater Flow Study	AW	Adopted with Modification (see *REC-1 Whitewater Boating*)
	KRB	
	Eugene Hacker	
Tunnel Maintenance Flow	AW*	*Adopted with Modification (see OPS-1 Tunnel Assessment*)
	KRB	
	Eric Kroh	
Determine Populations of the Kern River Rainbow below and Above Fairview Dam	James F. Ahrens	Not Adopted
Minimum Flow Study/Fish Flow Study	Richard Arner	Not Adopted
	Kent Varvel	
	Lawrence Elman	
Changes in Energy/Solar Production	Eugene Hacker	Not Adopted

AW = American Whitewater; EPA= Environmental Protection Agency; KRB = Kern River Boaters; KRFF = Kern River Fly Fishers; NPS = National Park Service; State Water Board = State Water Resources Control Board; SQF = Sequoia National Forest

* Proposed study component was included as part of the Whitewater Recreation Study request.

2.5.1. REQUESTED STUDIES ADOPTED OR ADOPTED WITH MODIFICATION

SCE's response regarding the development of new study plans and/or the integration into previously developed Study Plans are described below in Table 2.5-2.

Table 2.5-2. SCE Adopted Stakeholder Requested New Study Plans

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
Economic Study of Flow-Related Recreation	NPS	This study will evaluate the economic contributions of flow-related recreation in the Project bypass reach on the local economy, specifically the communities of Kernville and Wofford Heights, as well as Lake Isabella to a lesser degree. The purposes of this study are to 1) quantify the baseline economic values and socioeconomic benefits supported by water-based recreation, 2) evaluate various flow regimes on economic contributions, and 3) evaluate any long-term socioeconomic effects due to Project operations and potential changes in visitor use and expenditures due to proposed flow regimes. The objective of this study is to estimate changes in employment or income associated with any anticipated modifications to recreation use in the project area, such as whitewater rafting, boating, or fishing. This objective is consistent with Appendix D of FERC's Handbook for Hydroelectric Project Licensing and 5 MW Exemptions from Licensing (2004, p.11).	SCE has prepared a new Study Plan that will describe the economic contributions to the local economy resulting from tourism and recreation. Refer to *SOCIO-1 Socioeconomic Analysis* in Attachment 1.
Flow Travel Times	KRB	The goal of this study is to evaluate the amounts of time certain flows take to travel from the project's diversion point to its powerhouse, both through its conveyance and through the dewatered reach, the results of which may constrain or afford opportunities for plausible environmental or recreational mitigation measures.	WR-2 *Hydrology* has been modified to include an analysis of flow travel times between Fairview Dam and the KR3 Powerhouse. Travel times will be estimated utilizing existing gage data and incorporated as part of the final Technical Memo.
Recreation Facility Assessment	SQF	The Forest Service proposes the licensee conduct an inventory and assessment (e.g., capacity condition, and consistency with applicable accessibility requirements) of current recreation facilities and dispersed recreation sites within the FERC project boundary and along the Fairview Dam Bypass Reach. The goal of this study is to collect information needed for developing mitigation measures that will ensure: • Safe and suitable recreation facilities with sufficient capacity for public use of Project affected lands and waters. • Recreation facilities will sustain the health, diversity, and productivity of the recreating public. • Facilities meet appropriate accessibility standards. This study will inventory and assess the condition of recreational facilities and determine if they comply with the applicable accessibility standards and are appropriately accommodating current and future recreational demand. *Facility Inventory and Condition Assessment* This study element requires an inventory of the number and type of components (e.g., campsites, tables, restrooms) that are provided within the FERC Project Boundary and along the Fairview Dam Bypass Reach. A qualitative condition assessment of facilities within the FERC Project Boundary and Fairview Dam Bypass Reach will be conducted. *Dispersed Recreation Assessment* This study element requires an inventory of the number and type of dispersed recreation and camping sites that are within the FERC Project Boundary and along the Fairview Dam Bypass Reach. *Developed Facility Accessibility Assessment* Recreation facilities within the FERC Project Boundary and Fairview Dam Bypass Reach, including restrooms, day-use sites, campsites, signs, internal circulation roads, and parking areas, will be assessed for compliance with applicable accessibility requirements. Project recreation facility access roads will be assessed only with regard to providing accessibility within the developed facility. In addition, recreation facilities will be assessed for their ability to provide opportunities for persons with disabilities to participate in recreation opportunities provided by the Project, including boating, fishing, and accessing the river.	SCE has incorporated SQF's recommendation to conduct a facility inventory and assessment (Refer to REC-3 *Existing Recreation Facilities Condition Assessment* in Attachment 1). SCE has modified the list of developed recreation sites to only include those that are within the FERC Project Boundary and along the Fairview Dam Bypass Reach.
Road and Facility Erosion Assessment	SQF	There is a lack of information related to the erosional characteristics of Project Roads and Shared Access Roads, including the type of road and associated features (type of road surface, inboard ditch, outboard fill, culvert locations, sizes, maintenance records, etc.), and potential erosion and sediment transport pathways (topography, sediment erodibility, and proximity to receiving waters). The existing information will be supplemented by information collected in the following study: • Survey Project Roads and Shared Access Roads to assess erosion and sediment production to adjacent drainages. This assessment will consist of the following components: ○ Conduct a desktop geographic information system (GIS) evaluation and microzonation to identify landslides and other potential sediment sources or erosion features related to roads using publicly available or privately acquired remote sensing imagery, including aerial photography, satellite imagery, and Light Detection and Ranging (LiDAR) datasets.	SCE has incorporated the SQF's study request and prepared two additional Study Plans as follows: • *LAND-1 Road Condition Assessment.* This Study Plan includes a reconnaissance level walkdown of all Project and Shared Access Roads within the FERC Project Boundary to document their current condition and describe SCE's maintenance practices and responsibilities. The SQF's recommendation to use GRAIP/GRAIPlite to model impacts is not warranted at this time. SCE knows of no road segments that are causing or threatening to cause an adverse impact to environmental resources.

<table>
<tr><th>Study Plan Title</th><th>Stakeholder</th><th>Study Request (Study Goals and Objectives)</th><th>SCE Response</th></tr>
<tr><td></td><td></td><td>

Conduct a reconnaissance-level walkdown of all Project Roads and Shared Access Roads. Photo-document existing road conditions and identify erosion features such as road surface rilling, gullies, fill-slope failures, cut-slope and inboard ditch erosion, and culvert/drainage failures with potential for significant sediment production. Data will be captured using the existing TIMP GIS field mapping platform (or its functional equivalent) and geodatabase schema.
Compile walkdown results, including erosion parameters and geotagged photos that document the presence or absence of erosion for each road feature, in tabular and common geospatial formats (e.g., ArcGIS shapefile and Google Earth KMZ) as part of the Technical Study Report (TSR) documentation. These data will also be shown on annotated “strip maps” centered on each road that show locations of erosion sites identified as part of the study, along with slope failures and incised erosional features adjacent to the roadway that may act as sediment sources or transport to receiving waters.
The protocol the Forest Service uses to model impacts is GRAIP/GRAIPlite (available: https://www.fs.fed.us/GRAIP/). Licensee should use this protocol/tool or equivalent

Survey Project facilities, including spillways to assess erosion and sediment production to adjacent drainages.

The objective of this study is threefold: (1) to document the physical condition of existing Project and Shared Access Roads and facilities at a reconnaissance level; (2) to identify sites with significant active erosion or the potential for future erosion; and (3) to inform the need for protection, mitigation, and enhancement (PM&E) measures to address these deficiencies, consistent with applicable road engineering and design standards.
</td><td>

GEO-1 Erosion and Sedimentation. This Study Plan includes a reconnaissance level evaluation of potential erosion around Project facilities and an assessment of sedimentation production to adjacent drainages.

</td></tr>
<tr><td>Road and Facility Erosion Assessment</td><td>State Water Board</td><td>Attachment A-Comments on the Pre-Application Document for Kern River No. 3 Hydroelectric Project
General Comments:
5. In section 5.7.3. Recreation at the Project on page 5-135, the PAD includes information regarding an undeveloped recreational area that includes a graded parking lot and a dirt boat launch. Graded parking lots and exposed soil slopes have the potential to cause erosion and possible discharge into waterways. The State Water Board requests that more information be included in the Draft License Application regarding current maintenance operations of this recreational facility including erosion controls, if any.</td><td>SCE has prepared two additional Study Plans to document the current condition and maintenance practices of the Project recreation area. Refer to LAND-1 Road Condition Assessment and GEO-1 Erosion and Sedimentation in Attachment 1.</td></tr>
<tr><td>Whitewater Recreation Study /Whitewater Flow Study</td><td>AW</td><td>
The purpose of this study is to evaluate the impacts of the Kern 3 hydropower project on existing and potential whitewater recreation found on the Nationally designated Wild and Scenic North Fork Kern River from Fairview Reservoir to Kernville. There are 9 whitewater runs identified in Table 5.7-1 of the PAD (see below) which provide recreational experiences for 4 distinct difficulty levels from Class II Novice to Class V Expert. The proximity of the North Fork Kern River to Highway 99 allows separate access and enjoyment of each of these reaches by boaters of every level. Therefore, it is important that the study consider the impacts of the Kern 3 hydropower project to the North Fork Kern River both comprehensively of the entire reach from Fairview Reservoir to Kernville and individually within each separate river run.

<u>Table 5.7-1. Whitewater Runs Located in the Fairview Dam Bypass Reach</u>
<table>
<tr><th>Whitewater Run Name</th><th>Whitewater Difficulty[a]</th><th>Put-in</th><th>Take-out</th><th>River Mile Start[b]</th><th>River Mile End[b]</th><th>Length (miles)</th></tr>
<tr><td>Sidewinder / Bombs Away</td><td>IV - V</td><td>Below Fairview Dam</td><td>Roads End/ Calkins Put In</td><td>18.5</td><td>18</td><td>0.5</td></tr>
<tr><td>Fairview</td><td>III</td><td>Roads End / Calkins Put In</td><td>Calkins Flat</td><td>18</td><td>15.7</td><td>2.3</td></tr>
<tr><td>Chamise Gorge</td><td>IV - V</td><td>Calkins Flat</td><td>Above Upper Salmon Rapid</td><td>15.7</td><td>13.2</td><td>2.5</td></tr>
<tr><td>Salmon Falls</td><td>VI</td><td>Below Lower Salmon Rapid</td><td>Ant Canyon</td><td>13.2</td><td>12.3</td><td>0.9</td></tr>
<tr><td>Gold Ledge</td><td>IV - V</td><td>Ant Canyon</td><td>Corral Creek</td><td>12.3</td><td>9.2</td><td>3.1</td></tr>
<tr><td>Thunder</td><td>V</td><td>Corral Creek</td><td>Thunderbird Access or Camp 3</td><td>9.2</td><td>5.7</td><td>3.5</td></tr>
<tr><td>Cable / Camp 3</td><td>IV</td><td>Camp 3</td><td>Riverkern Beach</td><td>5.7</td><td>3.9</td><td>1.8</td></tr>
<tr><td>Riverkern Beach</td><td>II</td><td>Riverkern Beach</td><td>KR3 Powerhouse Put-in/Take-out</td><td>3.9</td><td>2.9</td><td>1</td></tr>
<tr><td>Powerhouse / “Lickety Split”</td><td>II+–III</td><td>KR3 Powerhouse Put-in/Take-out</td><td>Riverside Park, Kernville</td><td>2.9</td><td>1.1</td><td>1.8</td></tr>
</table>
[a] International Scale of Whitewater Difficulty
[b] River miles are calculated using NHD flowlines and upstream of the confluence of the North Fork Kern River and high water mark of Isabella Lake

Generally, the components of the study should include:
</td><td>
REC-1 has been revised to follow the three levels of study outlined in Whittaker et al. (2005). Each level incorporates the investigation tools described by Whittaker et al (2005). The Study Plan assumes Levels 1, 2, and 3 will be implemented during the study period.

Many of the study components listed by AW are included in the respective levels of investigation in the study plan. Specifically:

Summary of whitewater boating opportunities and range of flow preferences for each whitewater segment listed in Table 5.7-1 for a variety of watercraft including hardshell kayakers, inflatable kayakers, rafters, pack rafters, river boarders, and standup paddleboards.
Hydrologic analysis using hourly data for 16-mile bypass under impaired and unimpaired conditions.
Quantify annual number of days of whitewater boating using flow preference curves developed from data collected in the flow comparison survey and supplemented with information obtained in focus groups. Analysis will be done for respective watercraft in each whitewater segment under impaired and unimpaired hydrology in the Fairview Dam bypass.
An estimate of commercial and private whitewater boating use.
Summary of formal and informal river access sites used by whitewater boaters in the respective whitewater segments.
An evaluation of current project operations, constraints, and generation value to providing whitewater recreational flows within identified targeted flow ranges.

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</table>

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
		• A summary and characterization of current whitewater recreation including boater use numbers and associated economic impacts on the North Fork Kern River from Fairview Dam to Kernville. • An evaluation and comparison of the complete hydrological record in hourly increments of flows provided to the North Fork Kern River by the Kern. No. 3 Project and unimpaired flows from water years 1996-2022. • Identification, by stakeholders, of targeted flow ranges consisting of minimum acceptable to optimum flows for each river run. This should be based on boater type for all whitewater uses of the North Fork Kern River including but not limited to hardshell kayakers, inflatable kayakers, rafters, pack rafters, river boarders and standup river boarders. • An assessment of boating-day opportunities provided by the project from water years 1996-2022 in comparison to unimpaired flows using stakeholder identified targeted flow ranges for each river segment. • An evaluation of current project operations, constraints, and generation value to providing whitewater recreational flows within identified targeted flow ranges. • A summary of all current river access locations on the North Fork Kern River from Fairview Dam to Kernville including identification of boater put-in and take-out.	AW suggested additional study elements that are not part of the Whittaker et al. (2005) Guidelines, and therefore not included as part of REC-1. SCE's response regarding these topics are as follows: • Current whitewater recreation and associated economic impacts on the North Fork Kern River from Fairview Dam to Kernville (pg 5). SCE has prepared a new study plan that will describe the economic contributions to the local economy resulting from tourism and recreation. Refer to *SOCIO-1 Socioeconomic Analysis* in Attachment 1. • Generation Value Assessment (pg 8-9). A statement of Project costs and financing will be discussed in SCE's Application for New License, Exhibit D.
	KRB	The goal of this study is to establish the inventory of days whitewater recreation is lost to project operations. It will elicit the ranges of flow at which enjoyable low flow boating and low-optimal flow boating exist for each form of whitewater recreation. That information, coupled with the historical hydrograph of incoming flows at Fairview Dam, will paint a full picture of project effects in the dewatered reach, thus informing both the scope of the problem to be mitigated and the opportunities for mitigation. Whittaker et al. (2004) have described how to conduct a Level 4 on-water controlled flow study. We propose and will support a study consistent with those standards. It would include a range of boating craft: oar rigs, paddle rafts, shredders, open canoes, hardshell kayaks, inflatable kayaks, riverboards, and stand-up paddleboards. It would take place with at least five regulated flow levels: 200, 300, 400, 500, and 700 cfs. It would distinguish between "segment 1" (the dewatered reach above Hospital Flat) and "segment 2" (the dewatered reach below)[198], and be open to all interested boaters, commercial and noncommercial. It would have a simplified evaluation process compared to that of the 1994 study. And it would take place prior to peak snowmelt, when KR3 operations are more likely to deprive boaters of recreational opportunities.	One study objective included in the revised *REC-1 Whitewater Boating* is to develop flow preference curves delineating the minimum acceptable and optimum flows for a variety of watercraft for each whitewater segment using Levels 1, 2, and 3 investigations as described in Whittaker et al. (2005). The flow preference curves will be developed, in part, through a combination of investigative tools including structured interviews, flow comparison surveys, and focus groups. KRB's reference to Whittaker et al. (2004) describing "…how to conduct a Level 4 on-water controlled flow study" refers to a study approach for a Level 3 Intensive Study described in Whittaker et al. (2005). The revised *REC-1 Whitewater Boating* includes the Level 3 Intensive Study. However, KRB specifies a controlled flow study approach. While controlled flow studies are appealing because of the experimental design aspect, they should be avoided where flow control is not practicable, as noted by Whittaker et al. (2005). The KR3 Project lacks the infrastructure to meet the requirements of a controlled flow study. The lack of storage at Fairview Dam coupled with the uncertainty of the snowmelt hydrograph of the NFKR severely limits the scheduling and potential flow volumes that can be investigated for a controlled flow study, thereby violating the experimental design necessary for comparative data analysis. A controlled flow study below Fairview Dam would be limited to collecting data for a narrow range of flows, thus failing to meet the study objectives as described in Whittaker et al. (2005). Furthermore, study participants will likely vary across flow increments and not represent a broad cross-section of the boating community because study participants would need to mobilize multiple times on short notice to boat a number of flow increments. The experimental design of the controlled flow study requires the same group of study participants to boat each flow increment across a broad range of flows for comparative purposes. These aspects of a

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
			controlled flow study experimental design cannot be met downstream of Fairview Dam. In the Level 3 Intensive Study approaches, Whittaker et al. (2005) recommends flow comparison surveys for improving precision of whitewater boating flows. In *REC-1 Whitewater Boating*, SCE proposes using the flow comparison survey approach described in Whittaker et al. (2005) using survey tools available online. The online flow comparison survey resolves the limitations of a controlled flow study in the 16-mile bypass below Fairview Dam. The online flow comparison survey is not limited to the unpredictable snowpack and associated flows during the ILP study period. Whitewater boaters can provide input based on experiences over a wide range of water year types, and the online approach greatly expands the pool of study participants regardless of geographic location or schedule. Survey respondents can complete the flow comparison survey based on current and past experience boating the respective whitewater segments under a range of flow conditions and watercraft types. The online flow comparison survey ensures the collection of information on-schedule without study delays due to lack of snowpack. American Whitewater has also used online flow comparison surveys to collect flow preference information and recreation use patterns on rivers where a controlled flow study is not possible due to any number of factors including newly proposed unbuilt projects (American Whitewater, 2017 and 2021), projects with limited water storage, lack of regulatory jurisdiction to order flow releases for a study, and/or unpredictable flow conditions.
Whitewater Recreation Study /Whitewater Flow Study	Eugene Hacker	I also think a new "on water" white water study is needed. The old study was from a time where there was much different equipment. Kayakers have been utilizing stretches of the river at much lower flows than what the last study states. The out study is outdated.	REC-1 has been revised to follow the three levels of study outlined in Whittaker et al. (2005). A Level 3 Intensive Study is proposed and will collect flow preference information directly from whitewater boaters for a variety of watercraft for the respective whitewater segments using a flow comparison survey as described by Whittaker et al. (2005). SCE will utilize a flow comparison survey approach rather than a controlled flow study; refer to response above regarding this approach.
Tunnel Maintenance Flow	AW	*Note, this specific study component was included as part of the Whitewater Boating Study Request* Tunnel Assessment. A main component of Project operations that impacts whitewater recreational flows is the minimum diversion requirement to the powerhouse of 300 cfs to avoid damage to the tunnel walls. There are no specific engineering studies or information available for stakeholders and agencies to determine the validity of this requirement. Therefore, a preliminary assessment of available tunnel engineering studies and information should be conducted; all information should be shared with stakeholders and agencies; and a summary of that assessment should be provided in this study. Additionally, if current information is found to be deficient by stakeholders and agencies to justify the current 300 cfs diversion an independent engineering study of the tunnel facilities should be conducted and summarized	SCE has prepared a new study plan to validate tunnel maintenance flows and tunnel flow cycling procedures needed to protect tunnel integrity for long-term Project operations. Refer to *OPS-1 Tunnel Assessment* in Attachment 1. Additional information regarding discussions on the current 300 cfs minimum diversion flows are described in SCE's Response to FERCs AIR, Question 4 (Section 3.4).

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
	KRB	The goal of this study is to evaluate the effect that increasing and decreasing the quantity of water diverted at Fairview Dam — and thereby, increasing or decreasing the quantity of water conveyed through the project's tunnels — for purposes of whitewater mitigation has over and above the baseline rate of damage incurred by the tunnel liner due to naturally occurring variations in tunnel flow (annual, seasonal, and daily diurnal) and the nature of the material used to line the tunnel walls — namely, concrete — the results of which may constrain or afford opportunities for recreational mitigation measures.	Refer to response above to AW's study request and OPS-1 *Tunnel Assessment* in Attachment 1.
Tunnel Maintenance Flow	Eric Kroh	It's been said that not diverting flow is hard on the turbines. FERC needs to ensure this be evaluated by a third party engineering firm and confirmed with historical data showing a correlation with not diverting water and subsequent turbine failures. Simply taking a corporations word that its "not feasible" is irresponsible. It's also been reported that KR3 is not profitable especially during spring and early summer months when there is excess electrical provided by solar. FERC needs to include an evaluation of KR3 profitability during these months when recreational demand on the river is at its highest and profitability is at its lowest.	Refer to response above to AW's study request and *OPS-1 Tunnel Assessment* in Attachment 1. An economic analysis will be included as part of SCE's Application for New License as required in 18 CFR § 5.18. The economic analysis will include annualized, current cost information, including the cost of operating and maintaining the Project under existing license conditions and proposed PM&E measures; and estimates of the value of developmental resources (under existing and proposed conditions) such as power generation, as applicable (Exhibit E). In addition, consistent with 18 CFR § 5.18(a)(5)(iii) and § 4.51, SCE's Application for New License will also include a statement of Project costs and financing (Exhibit D).

AW = American Whitewater; cfs = cubic feet per second; ILP = Integrated Licensing Process; KRB = Kern River Boaters; KRFF = Kern River Fly Fishers; MW = megawatt; NPS = National Park Service; PM&E = Protection, Mitigation, and Enhancement; SQF = Sequoia National Forest; TWG = Technical Working Group; USFS = U.S. Forest Service

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2.5.2. REQUESTED STUDIES NOT ADOPTED

18 CFR § 5.11(b)(4) requires that if an applicant does not adopt a requested study, the applicant provide in its PSP an explanation of why the request was not adopted with reference to the criteria set forth in 18 CFR § 5.9(b). SCE did not adopt ten proposed studies due to one or more of the following reasons.

- There is no evidence of a problem.
- The study request is not necessary because existing information and/or another PSP is sufficient to answer the questions posed.
- The study request constitutes basic research and/or would not lead to the development of future license conditions.
- The study request is beyond the scope necessary for relicensing.
- The study request did not otherwise meet the criteria of 18 CFR § 5.9(b).

SCE's rationale regarding each study request is provided in Table 2.5-3 below.

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Table 2.5-3. Stakeholder Requested Studies Not Adopted

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
Aesthetic Flows	KRB	The goal of this study is to describe and evaluate the effects of project operations on aesthetic flows throughout the dewatered reach of the project — 16 miles of the Wild and Scenic North Fork Kern River — and to evaluate potential measures to alleviate those effects. This would be accomplished by evaluating the aesthetic benefit of various flows released into it from Fairview Dam. The objectives of this study are to: (1) Document the existing aesthetic character and conditions of the dewatered reach; (2) Identify key observation points; (3) Collect photo and video documentation under various existing and controlled flow conditions throughout the reach; (4) Conduct a focus group assessment of controlled flow conditions at key observation points; (5) Determine the operational feasibility, effects on generation, and cost of providing aesthetic flow releases; (6) Evaluate the potential effects of aesthetic flow releases on other resources including recreational uses, aquatic resources, water quality, and project generation.	**There is no evidence of a problem.** Although the Fairview Dam Bypass Reach includes a designated segment of a Wild and Scenic River established in 1987, there are no specific requirements for minimum flows or for temporal or spatial continuity of flows for an eligible segment (LMPH 82.72 – Flows). Regarding the Fairview Dam Bypass Reach for Wild and Scenic eligibility, per the 1982 North Fork Kern WS River Study / Final Environmental Impact Statement (USFS, 1982), the SQF stated that "A small dam detains and diverts water from the river channel at a point approximately 2 miles downstream from the Johnsondale Bridge, but does not create an extensive impoundment, nor does it greatly alter the free-flowing character of the river." The current condition of other resource areas (i.e., aquatics or recreation) will be collected as part of the study implementation phase. Following the collection and compilation of the data, any potential effects from SCE's current Project operations will be analyzed as part SCE's Application for New License.
Benthic Macroinvertebrate Assessment	SQF	The Forest Service proposes the licensee conduct an inventory and assessment of macroinvertebrate diversity and abundance in the Kern River and its tributaries within the FERC project boundary and along the Fairview Dam Bypass Reach. The goal of this study is to collect information needed for assessing indicators of ecosystem health and services including but not limited to: • Water quality – Benthic macroinvertebrates are sensitive to temperature, dissolved oxygen, bacterial loads, pH, conductivity, and turbidity. Collecting and reporting baseline data for comparison to data collected in the future will assist in detection of trends or changed conditions. Impoundments can change water quality because the water velocity is slowed, thereby allowing water to warm, allowing organic matter to accumulate and increase heterotrophy (which consumes oxygen from the water), change pH (changes in DO are directly related to changes in pH), and allow sediments to settle out of the water column. Impoundments also create deeper water – their intended purpose – which allows fishes to access prey items with greater ease. Similarly, reducing the flow or manipulating the flow of water downstream from a dam may increase the number of shallow pools (low water conditions), which may then heat up. Reduced flow conditions may also contribute to slower water velocities, leading to consequences similar to those already listed. These changes in water quality select for organisms – both fishes and macroinvertebrates – with wide physiological tolerances as opposed to those with narrow niche breadths. • Trout habitat quality – Macroinvertebrates are the primary foodstuffs for trout. A healthy fishery requires a healthy insect community. • Non-game wildlife habitat quality – Insects process organic matter, forming the base of in-stream food webs. Insects can be important foodstuffs and important predators of other aquatic organisms as well as some terrestrial animals. This study will assess the diversity and abundance of aquatic macroinvertebrates in the North Fork Kern River and its tributaries within the Project Area.	**There is no evidence of a problem, and the study request constitutes basic research and/or would not lead to the development of future license conditions.** Although SCE is not opposed to the adoption of a benthic macroinvertebrate assessment, it is unclear how the information collected in this proposed study would be utilized in the development of Project license requirements. Where water quality issues have been identified, studies were either previously conducted during the prior relicensing or have been adopted as part of the current relicensing. While the request correctly indicates that impoundments have the potential to alter water quality, the impoundment pool formed by Fairview Dam is small, has minimal storage capacity, and has a short residence time. Data collected during the prior relicensing effort do not indicate that the pool itself is a major source of warming in the NFKR, and the ongoing effect of the Project on temperature in the NFKR is being addressed under *WR-1 Water Quality*. Similarly, Project effects on trout populations are addressed by (1) an existing population monitoring plan, and (2) minimum flows, as required by the current license, intended to maintain trout and native fish habitat throughout the summer.

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
Comparative Whitewater Opportunities	KRB	The goal of this study is to compare and contrast available whitewater recreational opportunities for people from Southern California with those from the Bay Area. It will reveal the inventory of whitewater opportunities afforded to residents of each area and identify whether any differences are due to natural or regulatory differences.	**Beyond scope necessary for relicensing, the study request constitutes basic research and/or study would not lead to development of future license conditions.** The request to study other recreational opportunities outside of the Project Area/region is not likely to help inform the development of a license condition. Conducting research about whitewater opportunities outside of the Kern River will not add to the understanding of potential project effects of Project operations on the NFKR. Section 5.7 of the PAD filed September 22, 2021, describes nearby outdoor recreation opportunities upstream and downstream of the Project Area (SCE, 2021).
Conveyance, Forebay, and Penstock Safety	KRB	The goal of this study is to describe and evaluate the potential safety risks of project operations to life, property, and infrastructure in the area that lies below the penstocks, forebay, and elevated conveyance near the powerhouse of the project, and to evaluate potential measures to prevent or minimize those risks. The study would be accomplished by an independent engineering firm.	**Existing information is sufficient to answer question and/or beyond scope necessary for relicensing.** Project facility safety is an ongoing process addressed outside of the relicensing process and any changes related to Project safety would be addressed as they occur. FERC has regularly reviewed and confirmed that the Kern River No.3 Project has a rating of "low hazard." Dams assigned low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property. Per FERC regulations, the Project infrastructure is subject to inspections and FERC safety reviews. FERC routinely performs safety inspections at Fairview Dam/Intake, Flume/Sandbox, Salmon and Corral Creek Diversions, conveyance flowline, forebay, penstocks, and the powerhouse. The most recent inspection dated July 24, 2017, stated "The project features inspected and described herein were observed to be in satisfactory condition for continued operation."
Enjoyable Angling Flows	KRB KRFF	The goal of this study is to evaluate the effect that project operations have on angler enjoyment of fishing in the 16-mile dewatered reach below Fairview Dam. The amount of water present in a fishery can significantly impact an angler’s enjoyment of a fishing outing. This proposal focuses on situations where Edison’s diversion of water from the North Fork Kern may leave a quantity of water in the riverbed that is so low as to render an angling outing for a typical person less than enjoyable.	**There is no evidence of a problem.** Angling flows have not been raised as an issue, and KR3 is a run-of-river Project that has a variable flow regime.

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
Environmental Flow	KRB KRFF	The goal of this study is to apply the California Environmental Flows Framework (CEFF)(CEFWG, 2021) to the Wild and Scenic North Fork Kern River in order to provide environmental flow assessment and environmental flow recommendations. The objectives of this study are to: (1) Identify the ecological flow criteria using natural functional flows for the NF Kern River. Determine the natural ranges of the flow metrics for each of the five functional flow components (fall pulse flow, wet-season base flow, wet-season peak flows, spring recession flow, dry-season base flow); (2) Develop any additional ecological flow criteria for each flow component requiring additional consideration (e.g., additional constraints imposed by water temperature, dissolved oxygen concentration limits, and fish habitation requirements); (3) Develop environmental flow recommendations which reconcile the ecological flow needs with the non-ecological hydropower management objectives to create a balanced environmental flow recommendation.	**Study request is not necessary because existing information is sufficient to answer the questions posed.** Determining functional flow criteria ranges is feasible for this system; however, existing data are available to assess the ecological needs served by functional flows (i.e., fish population data, water quality). Where existing data are not available to assess the ecological needs related to minimum instream flows, SCE is proposing study plans to gather additional information (e.g., studies WR-1 and WR-2). The effects of current managed flows in the NFKR on water and aquatic resources will be assessed in SCE's Application for New License. Following the assessment of Project-related effects, which will be included in the License Application, the FERC ILP includes opportunities for participants to make recommendations regarding license conditions, including potential changes to ecological flow releases. Therefore, applying the California Environmental Flows Framework as a separate study is unnecessary given that the framework utilizes data generated by other proposed studies (and/or existing data), and requires the agreement of and negotiation with all Stakeholders in order to make final flow recommendations, which would not be completed as part of a relicensing study.
Water Quality	KRB	This study would describe and evaluate the effects of project operations on water quality throughout the dewatered reach of the project — 16 miles of the Wild and Scenic North Fork Kern River — and to evaluate potential measures to alleviate those effects. This would be accomplished by evaluating the benefit to water quality in the dewatered reach afforded by various flows released into it from Fairview Dam. The objectives of this study are to: (1) Document the existing water quality conditions of the dewatered reach; (2) Identify whether additional flows could improve those conditions; and (3) Evaluate the potential effects of water quality flow releases on other resources including recreational uses, aquatic resources, aesthetics, and project generation.	**Study request is not necessary because existing information and/or another PSP is sufficient to answer the questions posed.** SCE has adopted portions of this request. Specifically, *WR-1 Water Quality* was modified to include bacterial monitoring within the Fairview Dam Bypass Reach (see also response to *WR-1 Water Quality* in Table 2.4-1 above). Other water quality components most responsive to flow conditions (i.e., water temperature and dissolved oxygen) are already included in WR-1 and will be monitored over a range of flows and conditions. The remaining proposed study components are not necessary to complete the Application for New License. The run-of-river design of the Project does not contribute substances to the bypass reaches, thus any effects of the Project on water quality are generally limited to those caused by alterations to streamflow. For example, arsenic levels were previously measured in bypass reaches and found to reflect local watershed conditions, as the Project does not contribute arsenic to the watershed. Therefore, there is no Project nexus to include arsenic sampling as part of this relicensing. Additionally, a discussion of potential Project effects of ongoing Project operations to water quality (as well as on recreational uses, aquatic resources, aesthetics, and project generation) will be evaluated in SCE's Application for New License.

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
Determine Populations of the Kern River Rainbow below and above Fairview Dam	James F. Ahrens	The goals of the proposed study are: -Determine if any or how many Kern River Rainbow exist in the Kern River. -Determine what impact KR-3 has on the Kern River Rainbow. -Determine what impact the current flow requirements have on the Kern River Rainbow. There is no current information available on the status of the Kern River Rainbow. Information is needed to determine whether the Kern River Rainbow should be listed as an endangered species under the Endangered Species Act. If in fact, the Kern River Rainbow is now a “Candidate” for listing under the Endangered Species Act, then further mitigation is indeed warranted. Southern California Edison, as a requirement of their license to operate KR-3, is required to conduct fish population studies on the Kern River. The methodology for doing these studies is available. SCE should utilize the methodology of these studies to conduct an additional study on the Kern River Rainbow. Because of their experience in doing this, the cost to perform this additional study should be minimal.	**Study request is not necessary because existing information is sufficient to answer the questions posed.** SCE is currently monitoring fish populations every 5 years at three sites within the Fairview Dam Bypass Reach, and at two sites upstream of Fairview Diversion Dam to satisfy License Article 411 and the FERC approved Fish Monitoring Plan. The next fish population survey is scheduled for fall 2022. Ongoing fish population surveys have not documented Kern River rainbow trout at any of the established sites. Kern River rainbow trout are not expected to occur between Fairview Diversion Dam and the KR3 Powerhouse. Any existing Kern River rainbow trout populations upstream of Fairview Diversion Dam are not affected by Project operations. CDFW regularly stocks hatchery rainbow trout upstream and downstream and upstream of Fairview Diversion Dam (up to Forks of the Kern). The fish ladder at Fairview Diversion Dam was intentionally rendered non-operational in 1997 to protect Kern River rainbow trout from predatory Sacramento pikeminnow and brown trout.
Minimum Flow Study/Fish Flow Study	Richard Arner	The relicensing of Fairview Dam and the KR3 powerhouse needs to have a fish flow study completed before any future operation and diversion of water away from the Kern River between Fairview Dam and the KR3 Powerhouse. Minimum flows on this stretch are far too low to sustain a healthy wild trout population.	**Study request is not necessary because existing information is sufficient to answer the questions posed and the study request did not otherwise meet the criteria of 18 CFR § 5.9(b).** An instream flow assessment was previously completed on the NFKR and published in 1991 (SCE, 1991). The results of this extensive study identified fish habitat/flow relationships in the Fairview Dam Bypass Reach. The NFKR is a predominately boulder/bedrock dominated stream, thus the channel is unlikely to have changed significantly since 1991 and it is expected that the results of the study are still applicable. The flow/habitat relationship data were used in combination with other study data (e.g., water quality and sediment transport results) and resource agency management goals to formulate the current minimum instream flow release schedule. SCE will use this existing information, along with information collected from current fish population studies and other studies proposed in this PSP, to evaluate potential Project effects on fish populations within the Fairview Dam Bypass Reach. Additionally, this study request does not meet the seven FERC Study Request Criteria. It does not provide clear goals and objectives of the study, a study methodology, or level of effort and cost. Therefore, SCE has not adopted this study request as a study.

Study Plan Title	Stakeholder	Study Request (Study Goals and Objectives)	SCE Response
	Kent Varvel	My comments here are in regard the proposed FERC re-licensing of the Southern California Edison KR-3 Hydroelectric Power Plant, P-2290-122. I am a private citizen, property owner and tax payer. I have more than 30 years of experience with the North and South Forks of the Kern River, both as a fisherman and a boater. The KR-3 Hydroelectric Power Plant currently dewaters approximately 13 miles of the North Fork of the Kern River which is a federally designated Wild and Scenic River. This dewatering is detrimental to the native fishery, native aquatic vegetation and native biota. In these drought years, the negative impact is even greater. As SCE continues to take water from the river for the KR-3 hydroelectric project, the water that is allowed to continue down the natural river is insufficient to support the native biota in a sustainable form in this Wild and Scenic River. The de-watering by the KR-3 project of natural flows of the North Fork of the Kern River in drought years and low flow months has two major impacts: 1. First, the reduction in water levels in the natural river eliminate the deep, cool water pools the trout need to survive the heat and drought. When the river water temperature rises above 70 degrees Fahrenheit, this heat is lethal to many native and hatchery trout and other aquatic species. 2. The second major impact is that the trout in this shallower water are more easily hunted and taken by predatory birds and wildlife. This great reduction in trout surviving in the de-watered natural river means that their populations are most probably insufficient to be sustainable. Before any relicensing of the KR-3 Hydroelectric Power Plant, there needs to be a study conducted which evaluates the negative impact on fish and other biota in the de-watered section of the North Fork of the Kern River between Fairview dam and the KR-3 Powerhouse. These kind of studies are often termed Fish Flow Studies and need to use both the Hydrologic and Habitat-rating methods.	**Study request is not necessary because existing information is sufficient to answer the questions posed and the study request did not otherwise meet the criteria of 18 CFR § 5.9(b).** Refer to response above.
	Lawrence Elman	The Kern River Fly Fishers request FERC do a study of adequate flows for the Kern River below Johnsondale Bridge. We are concerned that the operation of Fairview Dam takes precedence over the quality of the river, the care of the river's watershed, and the trout living in its waters. Flows are way too low during the summer in part because of how the dam is operated. The number of trout in the river has drastically declined in the past twenty years. The enjoyment of fishing on the Kern has declined in the past twenty years. The plan to re-introduce the Kern River Rainbow has been beset with problems, delays, and mis-management. Regulations on the Kern are rarely enforced. Camping and illegal harvesting has negatively impacted the quality of the fishing. In short, the Kern does not receive the attention and care a Wild and Scenic designation deserves. We do not recommend that So Cal Edison is re-licensed to operate the Fairview Dam and KR 3.	**Study request is not necessary because existing information is sufficient to answer the questions posed and the study request did not otherwise meet the criteria of 18 CFR § 5.9(b).** Refer to response above.
Changes in Energy/Solar Production	Eugene Hacker	I propose that a study is conducted which looks into how much additional solar production will be coming on online and how the energy landscape will change over the proposed operational period. Also, provisions should be made in the licensing agreement where changes are made as needed as more solar power production comes online and the powerhouse is not needed as there are greater surpluses in the future. This could be done every 5 years or so to ensure the licensing agreement accounts for these projected future changes.	**Beyond scope necessary for relicensing, the study request constitutes basic research and/or the study would not lead to development of future license conditions and the study request did not otherwise meet the criteria of 18 CFR § 5.9(b).** SCE's analysis of alternative energy sources of the Project as part of the relicensing is unnecessary for future license conditions. An economic analysis will be included as part of SCE's Application for New License as required in 18 CFR § 5.18. The economic analysis will include annualized, current cost information, including the cost of operating and maintaining the Project under existing license conditions and proposed PM&E measures; and estimates of the value of developmental resources (under existing and proposed conditions) such as power generation, as applicable (Exhibit E). In addition, consistent with 18 CFR § 5.18(a)(5)(iii) and § 4.51, SCE's Application for New License will also include a statement of Project costs and financing (Exhibit D). Additionally, this study request does not meet the seven FERC Study Request Criteria. It does not provide clear goals and objectives for the study, a study methodology, explain how the study results would inform the development of license requirements, or include a level of effort and cost. Therefore, SCE has not adopted this study request as a study.

CDFW = California Department of Fish and Wildlife; CFR = Code of Federal Regulation; cfs = cubic feet per second; ILP = Integrated Licensing Process; KRB = Kern River Boaters; KRFF = Kern River Fly Fishers; NEPA = National Environmental Policy Act; NFKR = North Fork Kern River; PAD = Pre-Application Document; PM&E = Protection, Mitigation, and Enhancement; PSP = Proposed Study Plan; SCE = Southern California Edison Company; SQF = Sequoia National Forest; USFS = U.S. Forest Service

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2.6. EXECUTION OF STUDY PLANS

2.6.1. STUDY PLAN IMPLEMENTATION

SCE will initiate implementation of five studies in the spring/summer of 2022 prior to receiving FERC's Study Plan Determination (anticipated August 3, 2022). Minimal or no comments were received from Stakeholders on these draft Study Plans. SCE has elected to initiate field studies early for the following reasons:

- Seasonal component
  - *WR-1 Water Quality* (water temperature and dissolved oxygen)
  - *BOT-1 General Botanical Resources*
  - *BIO-1 Foothill Yellow-legged Frog*
- Potential for a second year of study and/or significant level of consultation required to complete the study
  - *CUL-1 Cultural Resource*
  - *TRI-1 Tribal Resource*

The schedule for early Study Plan implementation will be discussed at the Study Plan meeting on March 22, 2022. SCE encourages resource agencies to share any concerns or issues regarding early implementation with SCE and to work collaboratively to resolve any issues in a timely manner.

The remaining studies will be initiated as soon as practical following FERC's Study Plan Determination and any subsequent disputes, if they arise starting in late summer/fall of 2022 and continue into 2023, as applicable (Table 2.6-1).

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Table 2.6-1. Anticipated Study Plan Implementation Schedule

Study Plan		2022				2023				2024			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Reporting (ISR/USR)							▲				▲	
	Application for New License											★	★
WR-1 Water Quality													
Water Temperature and Dissolved Oxygen Monitoring													
Bacterial Sampling													
Analyze data and prepare Technical Memo													
WR-2 Hydrology													
Compile and analyze historical gage data													
Prepare Technical Memo													
BIO-1 Foothill Yellow-legged Frog													
Conduct desktop analysis and field surveys													
Analyze data and prepare Technical Memo													
BIO-2 Western Pond Turtle and Special Status Salamanders													
Phase 1 Habitat Assessment													
Phase 2 Visual Encounter Surveys													
Analyze data and prepare Technical Memo													
BIO-3 General Wildlife Resources													
Phase 1 Habitat Assessment													
Phase 2 Visual Encounter Surveys													
Analyze data and prepare Technical Memo													
BOT-1 General Botanical Resources													
Desktop analysis, habitat mapping and field surveys													
Analyze data and prepare Technical Memo													
REC-1 Whitewater Boating													
Conduct Level 1 Desktop Review													
Conduct Level 2 Limited Reconnaissance													
Summarize Level 1 and Level 2 results													
Implement Level 3 Intensive Study													
Summarize Level 3 results													
REC-2 Recreation Facilities Use Assessment													
Conduct recreation visitor intercept surveys													
Analyze data and prepare Technical Memo													
REC-3 Existing Recreation Facilities Condition Assessment													
Conduct facility condition assessments													
Analyze data and prepare Technical Memo													
LAND-1 Road Condition Assessment													
Conduct desktop analysis, consultation, and field reconnaissance													
Analyze data and prepare Technical Memo													
GEO-1 Erosion and Sedimentation													
Conduct desktop review and field surveys													
Analyze data and prepare Technical Memo													
SOCIO-1 Socioeconomic Analysis													
Conduct desktop analysis													

Study Plan		2022				2023				2024			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Reporting (ISR/USR)							▲				▲	
	Application for New License											★	★
Analyze data and prepare Technical Memo													
CUL-1 Cultural Resource													
Initiate consultation and conduct archival research													
Conduct cultural resource surveys													
Compile cultural resource survey data and information													
Continue evaluation of cultural resources, as needed													
Analyze data and prepare Cultural Resources Report													
TRI-1 Tribal Resource													
Initiate consultation and conduct archival research													
Conduct Tribal site visits and evaluate Tribal resources													
Analyze data and prepare Tribal Resources Report													
Continue evaluation of Tribal resources, as needed													
Analyze data and prepare Report													
OPS-1 Tunnel Assessment													
Conduct desktop analysis on Project tunnels													
Prepare Technical Memo													

Study Development and Reporting: May include desktop review of existing information, agency consultation, field surveys, data analysis, and development of a Technical Memo, as outlined in the individual Study Plans.

▲ Reporting: Schedule assumes FERC will issue its Study Plan Determination on August 3, 2022, as presented in SD1. SCE will file the Initial Study Report (ISR) within 1 year (August 3, 2023) and the Updated Study Report (USR) within 2 years of FERC's determination (August 2, 2024).

★ Submittal of SCE's Draft License Application (July 3, 2024) and Final License Application (November 30, 2024) in accordance with 18 CFR 5.16(a) and 5.17(a).

2.6.2. PROVISIONS FOR PERIODIC PROGRESS REPORTS

SCE will follow the standard FERC Study Plan progress reporting and meeting sequence as described in 18 CFR §5.15(c) and (f). SCE will file an Initial Study Report within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report no later than 2 years after FERC's determination. The reports will describe the progress of implementing each Study Plan, proposed schedule to complete any reaming tasks, and an overview of data collected to date. If a study-specific Technical Memo is complete, it will be appended to the filing. The progress reports will also note any variances from the FERC-approved Study Plan.

A Study Plan meeting with Stakeholders and FERC staff will take place within 15 days of the Initial and Updated Study Report filing to discuss the study results. SCE will file a meeting summary within 15 days of the meeting.

3.0 SCE RESPONSE TO FERC'S REQUEST FOR ADDITIONAL INFORMATION

FERC issued a Request for Additional Information on January 13, 2022 regarding four specific information requests following their review of SCE's PAD. FERC's questions are provided below, followed by SCE's responses.

3.1. REQUEST 1

Section 3.5, Other Dams and Diversions, of the PAD states that the maximum capacity of the non-project Kernville and Gilbert ditches is 3 cubic feet per second (cfs) and 35 cfs, respectively. However, it is unclear if these diversions are typically operated at maximum capacity. In addition, the PAD states that Gilbert Ditch can receive outflow from the California Department of Fish and Wildlife's Kern River Planting Base Hatchery (California DFW hatchery), though it is unclear if the hatchery outflow is always discharged into Gilbert Ditch. Therefore, please describe typical operation of each diversion ditch as well as the discharge location(s) of the California DFW hatchery if the information is available.

3.1.1. SCE RESPONSE

The two ditches in question are located along the NFKR but are downstream and outside of the KR3 Project Area. Publicly available information related to these ditches are described below.

Kernville ditch. The Kernville ditch is a pre-1914 water rights claim with the diversion point located along the west side of the NFKR approximately 1 River Mile downstream from the KR3 Powerhouse and returned to the NKFR upstream of Kernville bridge. The ditch can divert up to 3 cfs for domestic use to 62 residential property owners. The most recent *Supplemental Statement of Water Diversion* filed with the State Water Board specified the total amount diverted in 2021 by month ranged from zero to 82 acre-feet with a maximum diversion rate of up to 1.40 cfs (State Water Board, 2022).

Gilbert ditch. Gilbert ditch is a pre-1914 water right claim with the diversion point located along the east side of the NFKR approximately 1 River Mile downstream from the KR3

Powerhouse and diverts up to 35 cfs from the NFKR for domestic use and ranching. The most recent *Supplemental Statement of Water Diversion* filed with the State Water Board specified the total amount diverted in 2020 by month ranged from 67 to 1,147 acre-feet with a maximum diversion rate of 21.40 cfs (State Water Board, 2021). The Gilbert ditch can receive water from two locations: (1) an enclosed pipe connected to the outflow from CDFW's Kern River Planting Base Hatchery, and (2) directly from the NFKR via a manual slide gate. The hatchery discharges at its southern boundary into Gilbert Ditch.

3.2. REQUEST 2

Section 4.5.1, Water Management, of the PAD states that the normal operating flow capacity for the water conveyance system is 585 to 605 cfs. However, the minimum and maximum hydraulic capacities of the conveyance system are not identified. Therefore, please provide: (a) the minimum and maximum hydraulic capacity of the conveyance system; (b) the maximum hydraulic capacity of the Salmon Creek diversion and the Corral Creek diversion; (c) the minimum and maximum hydraulic capacity of each turbine; and (d) the maximum hydraulic capacity of the pressure release valve in the powerhouse that may be used to supply the flow to the California DFW hatchery.

3.2.1. SCE RESPONSE

- Conveyance System
  - Minimum Hydraulic Capacity: 1 cfs
  - Maximum Capacity: 605 cfs
- Salmon Creek Diversion
  - Maximum Capacity: 30 cfs
- Corral Creek Diversion
  - Maximum Capacity: 12 cfs
- Turbines (Units 1 and 2 are the same)
  - Minimum Hydraulic Capacity: 40 cfs
  - Maximum Capacity: 306 cfs
- The valve in the powerhouse that may be used to supply the flow to CDFW's hatchery is labeled as the "Bursting Plate Nozzle" on the Exhibit F-13 Drawing dated 2-1-2002.
  - Maximum Capacity: 40 cfs

3.3. REQUEST 3

Section 4.5.1 also states that SCE provides 35 cfs, plus 5 to 10 cfs to buffer diurnal flow fluctuations, to the California DFW hatchery via the project's conveyance system and powerhouse tailrace. However, based on comments received at the scoping meetings on December 14, 2021, it is unclear if the hatchery is currently operating.[1] Therefore, please describe the current operating status of the hatchery and any available information on future operation of the hatchery.

3.3.1. SCE RESPONSE

In a letter from CDFW to FERC and SCE dated January 7, 2022 (CDFW, 2022), CDFW has temporarily shut down to conduct pipeline repairs. In an email from Abimael Leon at CDFW dated February 22, 2022 (Attachment 3), CDFW confirmed that a timeline for reoperation has not been set, but will notify SCE when the Kern Hatchery diversions are set to resume.

3.4. REQUEST 4

Section 4.5.1 also states that whitewater releases may be reduced when flows are insufficient to allow both the continuous 300-cfs diversion to the project powerhouse and meet the minimum whitewater releases. In addition, during the evening scoping meeting on December 14, 2021, stakeholders expressed concern over the 300-cfs diversion to the powerhouse. SCE indicated that information may be available to explain the minimum 300-cfs diversion to the project powerhouse. Staff have reviewed the project record, which indicates that SCE conducted a study prior to a 2002 Settlement Agreement that indicates a flow of 300-cfs diversion to the powerhouse should be maintained on whitewater release days to avoid damage to the tunnel walls.[2] However, no specific information regarding SCE's study of the project's tunnels or specific justification of the 300-cfs diversion is available. Therefore, please provide any existing study results or available information regarding the current 300-cfs diversion and effects of flow changes on the tunnel walls/liner of the conveyance system.

3.4.1. SCE RESPONSE

The 2002 Settlement Agreement referenced by FERC staff indicates that the 300 cfs diversion requirement is attributable to a finding by USFS. The source of this finding appears to be the USFS's 1998 Finding of No Significant Impact (FONSI) (USFS, 1998). The 1998 FONSI provides:

> The lining in the project tunnels is subject to deterioration, sloughing, and cave-in if the volume of water in the tunnels fluctuates frequently. Frequent fluctuations in the volume of water in project tunnels causes fluctuations in the pressure water exerts against the tunnel lining,

[1] Transcripts of the scoping meetings were issued on January 3, 2022.

[2] See Settlement Agreement Regarding the Kern River No. 3 Hydroelectric Project filed December 30, 2002; FERC Accession No. 20030106-0377.

> which then causes abnormal tunnel deterioration and collapse. When available, and after meeting minimum instream flow requirements, the licensee can maintain 300 cfs in the tunnels to stabilize and protect project facilities.

While the 2002 Settlement Agreement, as noted by FERC's additional information request, mentions an "SCE study," SCE could not locate any prior study that identifies 300 cfs as the requisite minimum flow needed to avoid pressure changes that cause damage to the wall liner. Moreover, any such report prepared by SCE during the last relicensing effort is likely outdated in light of SCE's more recent work completed in 2014 to repair the tunnel. The refurbishment was a major effort that included repair of potholes in the floor of the tunnel and cracks and spalls in the concrete liner along the length of the tunnel. Additionally, areas of the tunnel roof identified as potentially unstable were strengthened by the installation of fiber wrap systems or anchors embedded into the overlying rock.

For this reason, SCE is proposing the OPS-1 Tunnel Assessment Study Plan that will evaluate the effect on tunnel integrity from routine cycling of flows (i.e., dewatering and refilling). The objective of the study is to validate that tunnel maintenance flows and tunnel flow cycling procedures are needed to protect tunnel integrity during long-term Project operations. The study will utilize information from as-built drawings, descriptions of recent tunnel refurbishment work conducted, and recent inspection reports.

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ATTACHMENT 1
SCE PROPOSED STUDY PLANS

WR-1	Water Quality
WR-2	Hydrology
BIO-1	Foothill Yellow-legged Frog
BIO-2	Western Pond Turtle and Special-Status Salamanders
BIO-3	General Wildlife Resources
BOT-1	General Botanical Resources
REC-1	Whitewater Boating
REC-2	Recreation Facilities Use Assessment
REC-3	Existing Recreation Facilities Condition Assessment
CUL-1	Cultural Resource
TRI-1	Tribal Resource
LAND-1	Road Condition Assessment
GEO-1	Erosion and Sedimentation
SOCIO-1	Socioeconomic Analysis
OPS-1	Tunnel Assessment

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WR-1 WATER QUALITY STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Kern River No. 3 Hydroelectric Project (Project) operations have the potential to alter water temperatures and dissolved oxygen (DO) concentrations, which may affect suitable habitat for fish and other aquatic species.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Project diversions affect streamflows, which may affect water temperatures and DO concentrations in the North Fork Kern River (NFKR) below Fairview Dam, Salmon Creek below the Project diversion, Corral Creek below the Project diversion, and the NFKR downstream of the Kern River No. 3 (KR3) Powerhouse.

- Additional data are needed to characterize water temperature and DO in the Project Area.

- Results will be used to assess Project-related effects on aquatic habitat and determine when the Regional Water Quality Control Board (RWQCB) water quality objectives related to stream temperatures and DO concentrations are met.

3.0 STUDY GOALS AND OBJECTIVES

- Collect current stream water temperature data to characterize current water temperatures during summer months.

- Collect current DO monitoring data to characterize current DO concentrations during summer months.

- Collect current fecal coliform data to characterize bacterial concentrations.

4.0 STUDY AREA AND STUDY SITES

4.1. TEMPERATURE AND DISSOLVED OXYGEN MONITORING SITES

Temperature monitoring and DO measurements will occur at ten sites: seven locations within Project-affected reaches and three comparison sites along stream reaches upstream of Project operations (Figure 4-1):

1. WQ-NFKR-19.0: NFKR immediately upstream of Fairview Diversion impoundment pool

2. WQ-NFKR-18.5: NFKR immediately downstream of Fairview Dam

3. WQ-NFKR-10.9: NFKR at Gold Ledge Campground

4. WQ-NFKR-3.2: NFKR immediately upstream of the KR3 Powerhouse

5. WQ-NFKR-3.0: NFKR downstream of the KR3 Powerhouse

6. WQ-NFKR-1.2: NFKR at the existing Kernville U.S. Army Corps of Engineers (USACE) gage

7. WQ-CC-1.4: Corral Creek upstream of the Project diversion

8. WQ-CC-0.4: Corral Creek upstream of its confluence with the NFKR

9. WQ-SC-0.55: Salmon Creek upstream of the Project diversion

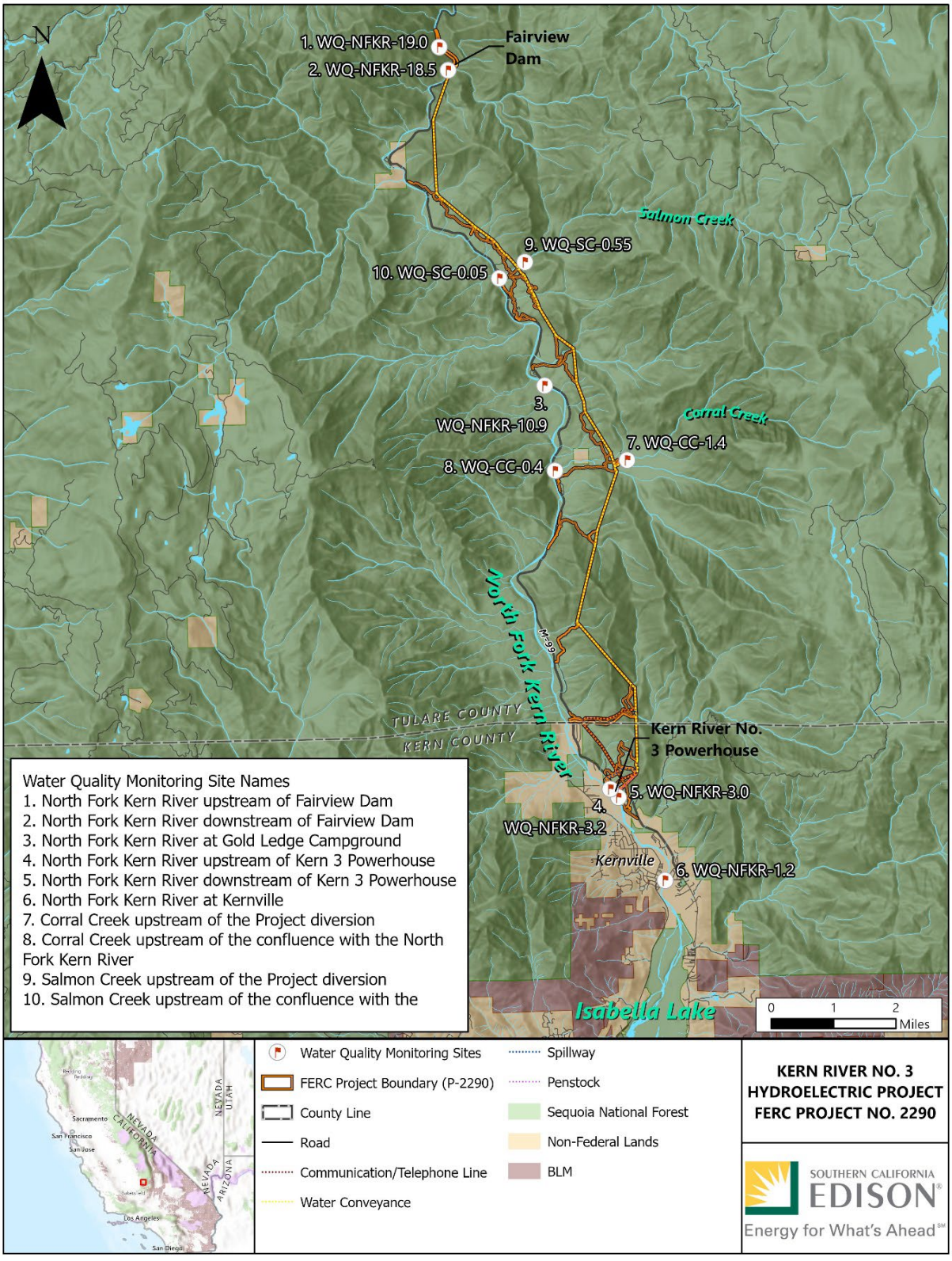
10. WQ-SC-0.05: Salmon Creek upstream of its confluence with the NFKR

4.2. FECAL COLIFORM SAMPLING SITES

Fecal coliform samples will be collected at a subset of the temperature and DO monitoring sites, listed below:

1. WQ-NFKR-19.0: NFKR immediately upstream of Fairview Diversion impoundment pool

4. WQ-NFKR-3.2: NFKR immediately upstream of the KR3 Powerhouse



BLM = Bureau of Land Management

Figure 4-1. Water Quality Study Monitoring Sites.

5.0 EXISTING INFORMATION

The KR3 Project Pre-Application Document (September 2021) reviewed the existing, relevant, and reasonably available information associated with water quality in the three Project bypass reaches. Water quality in the NFKR within the Project Vicinity is typical of west slope Sierra Nevada mid-elevation rivers, with low concentrations of minerals, metals, and nutrients; low turbidity; and DO near 100 percent saturation. Water temperature in the NFKR supports a variety of aquatic resources including both coldwater and transitional zone fish assemblages, as temperatures vary seasonally from lows during peak snowmelt period to highs at or above 20 degrees Celsius (°C) in late summer, including upstream of the Fairview Dam Bypass Reach.[1]

The following sources were also used and reviewed when developing this study plan:

- Central Valley RWQCB—beneficial use designations and DO objectives
- U.S. Forest Service—Sportfish and Forest Service Sensitive species
- California Department of Fish and Wildlife—Fish (sportfish and California special-status species)

6.0 STUDY APPROACH

- Water Temperature Monitoring
  - Continuous water-temperature data loggers (e.g., Onset HOBO) will be installed at the sites identified above. Both prior to and after deployment, quality control calibrations will be performed on each unit. Data loggers will be placed inside protective housing and then installed in each stream segment at a location representative of the main channel.
  - Data loggers will be deployed between June 1 and September 30, assuming safe access to the stream channel.
  - Coordinates of each logger after installation will be recorded using a Global Positioning System (GPS) unit.
  - Water temperature will be recorded at 15-minute intervals and summarized as daily means, maxima, and minima.
  - Loggers in Salmon and Corral Creeks will be checked monthly during deployment, during which time data will be downloaded from each unit; loggers in the NFKR will be installed in duplicate, and data will be downloaded at the end of deployment.

[1] The Fairview Dam Bypass Reach is defined as the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse trailrace.

- Data loggers will be placed in locations with sufficient circulation, yet also protected from high scouring flows.

- Two thermographs will be installed at each site to provide redundancy in the case of tampering or vandalism.

- DO Monitoring

  - Continuous DO data loggers (e.g., PME miniDOT) will be installed at the sites identified in Section 4.1 above.

  - Data loggers will be deployed between June 1 and September 30, assuming safe access to the stream channel. Both prior to and after deployment, quality control calibrations will be performed on each unit. Data loggers will be placed inside protective housing and then installed in each stream segment at a location representative of the main channel.

  - Coordinates of each logger after installation will be recorded using a GPS unit.

  - DO concentrations will be recorded at 15-minute intervals and summarized as daily means, maxima, and minima. Loggers will be checked monthly during deployment, during which time data will be downloaded from each unit.

  - Data loggers will be placed in locations with sufficient circulation, yet also protected from high scouring flows.

- Bacterial Sampling

  - Sampling for fecal coliform will occur at sites listed in Section 4.2 above. Samples will be collected from just below the water surface as a composite sampling from a well-mixed area at each stream site. Samples will be collected on, at minimum, five separate dates during the summer within a 30-day period and will include the Labor Day holiday weekend. Samples will be collected in sterilized bottles supplied by a certified Environmental Laboratory Accreditation Program analytical laboratory. Field sampling personnel will fill each sample bottle by direct immersion in the river. Immediately after collection, samples will be placed on ice for transport to the analytical laboratory within the required field hold time (Table 6-1).

Table 6-1. Bacterial Sampling Methods

Parameter	Method	Target Reporting Limit	Hold Time
Fecal Coliform	SM 9221E	1.8 MPN/100 mL	8 hours at 4 °C

°C = degrees Celsius; MPN = most probable number; mL = milliliter

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

Date	Activity
Spring–Fall 2022	Deploy temperature and DO loggers; Collect bacterial samples
Winter 2022/2023	Analyze data and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

DO = dissolved oxygen; ISR = Initial Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $42,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

None.

WR-2 HYDROLOGY STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Potential effects of Kern River No. 3 (KR3) Hydroelectric Project (Project) operations on stream hydrology.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Project operations influence streamflow and hydrology.
- Hydrologic gage data collected and verified in this study will be used to inform evaluations of potential Project-related effects on streamflow and hydrology.

3.0 STUDY GOALS AND OBJECTIVES

- Compile and summarize hydrologic gage data for use in other resource assessments.

4.0 STUDY AREA AND STUDY SITES

The study will compile data from:

- Southern California Edison (SCE) Company Gage 401 (U.S. Geological Survey [USGS] gage 11186000) in the North Fork Kern River (NKFR) downstream from Fairview Dam.
- SCE Gage 402 (USGS gage 11185500) in the conveyance flowline at Adit 6/7.
- U.S. Army Corps of Engineers (USACE) gage in Kernville.

5.0 EXISTING INFORMATION

SCE currently maintains two gaging stations to monitor and record flows associated with Project operation. The gages record flow in NFKR below Fairview Dam and within the KR3 conveyance flowline. These gages are operated with independent review by USGS. Depending on the period of record required, this data might be available electronically, on floppy disk, or on paper.

USACE operates a streamflow gage at Kernville. This data is subject to USACE oversight and to a different standard than the USGS gages upstream.

6.0 STUDY APPROACH

This is a desktop analysis, with the below tasks anticipated.

- Hourly gage data will be compiled from SCE, USGS, and/or USACE for the duration of the current license period (i.e*.,* water year 1997, beginning October 1, 1996, through water year 2021, ending September 30, 2021).
- Gage data will be verified through a quality assurance process at the hourly level.

- Gage data will be compiled and summarized using various statistical parameters for use in resource evaluations, including:
  - A summary of flow travel times from Fairview Diversion to the KR3 Powerhouse based on existing and available data.
  - Maximum/minimum, average/median, and variance summarized annually, seasonally, and/or monthly.
  - Flow duration curves summarized annually and/or monthly.

Because this Project operates as run-of-river, hydrologic modeling is not included in this study.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

Date	Activity
Summer 2022	Compile gage data from USGS/SCE for the established period of record; Review and analyze data for integrity, consistency, and data gaps
August 2023	Provide Hydrologic Gage Data and Technical Memo with ISR

ISR = Initial Study Report; SCE = Southern California Edison Company; USGS = U.S. Geological Survey

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for this study is $50,000, which includes data compilation and analysis, and reporting.

10.0 REFERENCES

None.

BIO-1 FOOTHILL YELLOW-LEGGED FROG STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

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KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Potential effects on foothill yellow-legged frog (*Rana boylii*) and their habitat.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Kern River No. 3 (KR3) Hydroelectric Project (Project) operations affect streamflows, which may affect the state-endangered foothill yellow-legged frog in the Project Area.
- Results of this study will be used to examine Project operations and maintenance activities.

3.0 STUDY GOALS AND OBJECTIVES

This study will:

- Evaluate habitat suitability for all foothill yellow-legged frog life stages (i.e., egg masses, tadpoles, post-metamorphs) in the study area; and
- Determine whether any life stage of the foothill yellow-legged frog is present within the study area.

4.0 STUDY AREA AND STUDY SITES

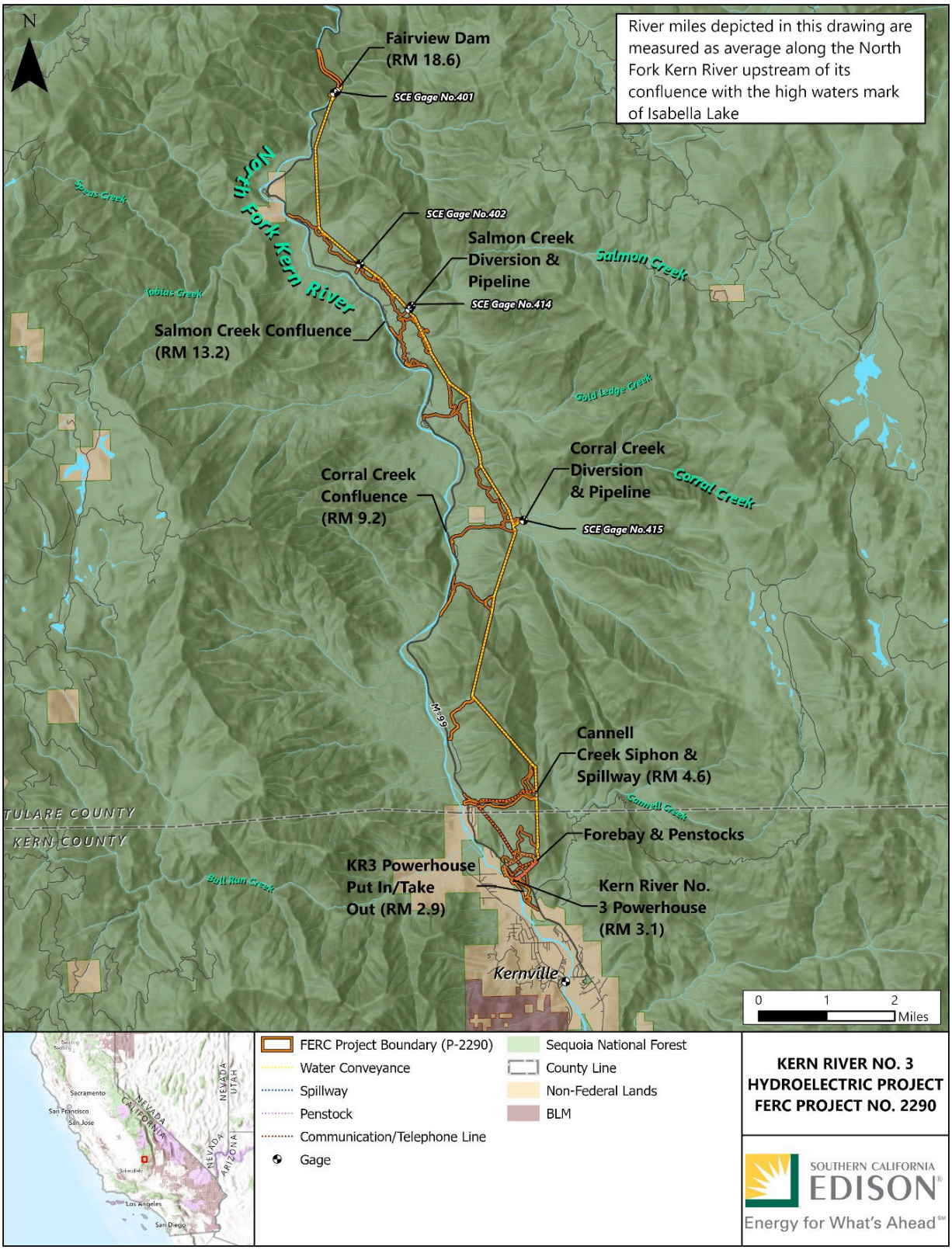
The study area includes Project forebays and Project-affected stream reaches (Figure 4-1). The habitat suitability assessment area includes: (1) North Fork Kern River (NFKR) immediately upstream and around Fairview Dam, (2) Fairview Dam Bypass Reach (the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse tailrace), (3) NFKR between the KR3 Powerhouse and Kernville, (4) Salmon Creek Diversion Bypass Reach (the 0.4-mile reach from Salmon Creek Diversion downstream to the confluence with the NFKR), (5) Corral Creek Diversion Bypass Reach (the 1.1-mile reach from Corral Creek Diversion downstream to the confluence with the NFKR), and (6) Cannell Creek between the siphon spillway and the NFKR.

Specific sites for environmental deoxyribonucleic acid (eDNA) sampling and visual encounter surveys (VESs) will be selected using habitat suitability assessment information including habitat quality or value, species-specific habitat criteria, suitability for eDNA sampling, and safety and access considerations. The actual number of survey sites will depend on the results of the habitat assessment. Surveys will occur at:

- One to two sites in the NFKR upstream of Fairview Dam
- One to four sites in the Fairview Dam Bypass Reach
- One to two sites in the NFKR between the KR3 Powerhouse and Kernville
- One site in the Salmon Creek Diversion Bypass Reach

- One site in the Corral Creek Diversion Bypass Reach
- One site in Cannell Creek

An additional study site upstream of the Project with contemporary documented occurrences of foothill yellow-legged frogs may be included as a reference site for eDNA sampling.



5.0 EXISTING INFORMATION

- Historically, foothill yellow-legged frogs were observed in the Project Area, including along the NFKR downstream of Fairview Dam at the confluence of Salmon Creek, and upstream of Cannell Creek, although all observations were recorded prior to 1972 (CDFW, 2020).

- The Eastern/Southern Sierra clade of foothill yellow-legged frog was listed as endangered by the California Fish and Game Commission on February 21, 2020 (California Fish and Game Commission, 2020).

- Biological evaluation surveys within stream reaches have not documented foothill yellow-legged frog; however, contemporary focused foothill yellow-legged frog surveys have not been conducted within Project-affected stream reaches (Psomas, 2004, 2013a, 2013b, 2013c; SCE, 2012).

- The nearest recorded observations to the Project Area are in Sequoia National Forest approximately 5 miles northeast from Fairview Dam. Two small, isolated populations were observed in two unnamed tributaries to the NFKR, locally referred to as Jywood Creek and Ash Creek, during multiple surveys between 1998 and 2018 (CDFW, 2020; Hayes et al., 2016).

6.0 STUDY APPROACH

A three-phased approach is being developed, as outlined below.

- Phase I: Assess the general study area for suitable habitat and select survey and sampling sites.

- Phase II: Implement eDNA and VES protocols.

- Phase III: Pending positive identification in any Project-affected stream reaches, additional data collection may be conducted.

6.1. PHASE I: IDENTIFICATION OF SUITABLE HABITAT AND SELECTION OF SURVEY SITES

- A field reconnaissance visit will be conducted at specific locations to support the identification of suitable foothill yellow-legged frog habitat, select study sites, and test eDNA methods prior to sampling.

- Available data sources, including aerial imagery and video, will be reviewed prior to the reconnaissance visit to aid in identifying areas of potential habitat for foothill yellow-legged frog.

- Sites will be selected to provide reasonable coverage of representative suitable habitat and stream conditions suitable for eDNA sampling at access points that do not compromise surveyor safety.

The following are foothill yellow-legged frog habitat suitability ranking categories.

- High: areas containing suitable habitat for all life stages, especially breeding. These stream segments would provide protection for egg mass deposition and larval maturation (e.g., wide channel areas with edgewater and backwater areas sheltered from flow; banks with shallow slopes).

- Moderate: areas containing suitable habitat for most life stages, although areas may lack potential habitat for one or more life stages (e.g., some habitat may be exposed to the main flow; there may be moderately steep or incised banks).

- Low: areas containing little or no suitable habitat for breeding or larval development and minimal refugia for post-metamorphic life stages (young-of-year, juveniles, adults). Habitat may function as a dispersal corridor.

- Not suitable: areas containing no potentially suitable habitat for any life stage.

Site selection will focus on areas with high habitat suitability; sites with moderate or low suitability will be selected if highly suitable sites are not identified.

6.2. PHASE II: CONDUCT FIELD SURVEYS

To minimize the potential spread of invasive species and pathogens (e.g., Chytrid fungus [*Batrachochytrium dendrobatidis*]), appropriate standard and currently accepted decontamination protocols will be followed prior to each aquatic-based field effort.

6.2.1. ENVIRONMENTAL DNA SAMPLING

eDNA field collection methods will be based on current eDNA sample collection literature and protocols (e.g., Halstead et al., 2020; Bedwell and Goldberg, 2020; Carim et al., 2016; Laramie et al., 2015; Goldberg et al., 2015; and Pilliod et al. 2014). Field sampling methods include:

- Decontaminate sampling gear (e.g., forceps) in a 50 percent bleach solution before sample collection.

- Filter stream water using a filter and pump assembly (e.g., manual hand-driven vacuum or peristaltic pump).

- Preserve filters and send samples to laboratory for analysis.

eDNA water samples will be collected during a single event in the breeding season, timed to coincide with the VES. Site-specific eDNA sample design and methods (e.g., filter pore size and sample volume) will be developed to maximize the likelihood of foothill yellow-legged frog detection within the sample site. *In situ* water quality measurements (conductivity, pH, and temperature) will be collected. eDNA field collection methods will be tested during the reconnaissance survey described in Section 6.1.

The eDNA samples will be analyzed by a recognized laboratory that conducts eDNA analysis for identification of foothill yellow-legged frogs. Results will be reported as detection or non-detection.

6.2.2. VISUAL ENCOUNTER SURVEYS

- A single VES for foothill yellow-legged frog will be conducted along with eDNA sampling at each site.
- The survey area will include safely accessible aquatic features within approximately 250 feet upstream and downstream (500-foot total survey distance) of the eDNA sample location.
- Surveys will be conducted by a minimum of two surveyors working in tandem. Surveyors will wade or walk the shoreline and shallow-water habitats where possible, scanning ahead and searching stream banks, back-channel areas, and instream habitats for larvae (tadpoles) and post-metamorphic frog life stages (juveniles and adults) on both sides of the river, where possible.
- All other amphibian and aquatic reptile species observed during the surveys will be recorded. Each species' detection will be recorded by life stage along with associated habitat data. Data collected will include species information, microhabitat characteristics where the individual was detected (e.g., air and water temperature, substrate, location in the stream, associated vegetation or cover), and Universal Transverse Mercator (UTM) coordinates.
- A California Native Species Field Survey Form will be completed for any special-status species observed during the field surveys and will be submitted to the California Natural Diversity Database (CNDDB).

6.3. PHASE III: ADDITIONAL FIELD SURVEYS

If the results of field surveys indicate that foothill yellow-legged frogs are present in any stream reach, additional studies may be developed in consultation with Stakeholders to characterize the population of foothill yellow-legged frog (e.g., multi-life stage surveys) that may be affected by Project operations.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. Confidential information (e.g., precise locations of any incidental special-status species observations) will be provided directly to relevant agencies and filed as "Privileged Information" with FERC. Standard geographic information system (GIS)

shapefiles, including metadata, will be provided to relevant agencies upon request. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

One year of data collection will occur for foothill yellow-legged frog; a second year of data collection would be considered in consultation with relevant agencies if the results of eDNA and field surveys indicate that this species is present in any of the study areas.

Date	Activity
Spring–Fall 2022	Conduct desktop analysis and field surveys
Winter 2022/2023	Analyze data and prepare Technical Memo
Spring–Summer 2023	If needed, conduct additional field surveys pending consultation with relevant agencies
August 2023	Provide Technical Memo with ISR
August 2024	Provide updated Technical Memo with USR, if applicable

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $100,000, which includes field work, data compilation and analysis, and reporting.

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BIO-2 WESTERN POND TURTLE AND SPECIAL-STATUS SALAMANDERS STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Special-status salamanders—Fairview salamander (*Batrachoseps bramei*), which is a Forest Sensitive Species; Kern Canyon salamander (*Batrachoseps simatus*), which is a state-listed threatened species; Kern Plateau salamander (*Batrachoseps robustus*); and Greenhorn mountains slender salamander (*Batrachoseps altasierrae*)—and a state Reptile Species of Special Concern/Forest Service Sensitive Species, the western pond turtle (*Actinemys marmorata*[1]), may be affected by Project operations and maintenance.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- One state Species of Special Concern and Forest Service Sensitive Species (western pond turtle) and one Forest Service Sensitive Species salamander (Fairview slender salamander) have been historically documented as occurring in the study area.

- Determine direct and/or indirect effects on these species and their habitat from continued Project operations and maintenance activities in the context of applicable regulatory requirements including, the most recent federal and state land management and conservations plans, the U.S. Forest Service (USFS) Management Plan, the federal and state Endangered Species Acts (ESAs), the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA).

3.0 STUDY GOALS AND OBJECTIVES

- Obtain additional information to supplement the existing information regarding western pond turtles, Fairview slender salamander, and other potential special-status salamanders potentially in the study area including:
  - Identify and map potentially suitable habitat.
  - Document presence, if found.
  - Resurvey previously documented locations of western pond turtles in the study area.

4.0 STUDY AREA AND STUDY SITES

The western pond turtle and special-status salamander study area is shown on Figure 4-1.

[1] Species is also identified as *Emys marmorata* (e.g., CDFW, 2020).

The habitat suitability assessment and study area minimally includes perennial streams, creeks, off-channel ponds, or wetlands within 50 feet of the following Project facilities:

- Fairview Dam
- Salmon Creek Diversion, Open Flume, Adit 8B-9A, and adjacent access roads
- Gold Ledge Creek Open Flume, Adit 13-14, and adjacent access road
- Corral Creek Diversion, Open Flume, and access road
- Cannell Creek, Siphon, and access road
- Kern River junction with Salmon Creek, Gold Ledge Creek, Corral Creek, and Cannell Creek

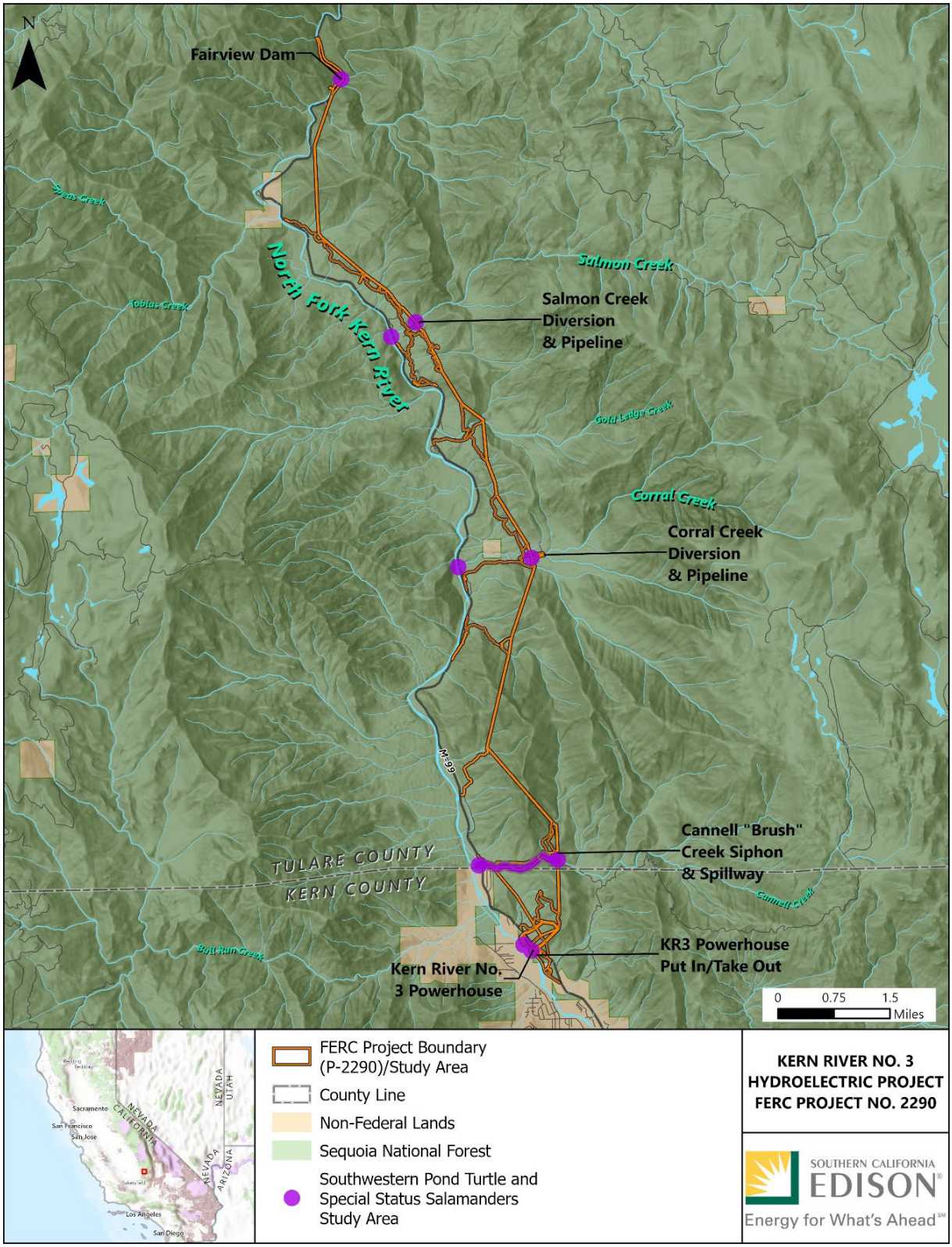

Figure 4-1. Western Pond Turtle and Special-status Salamander Study Area.

5.0 EXISTING INFORMATION

Special-status amphibians and aquatic reptiles in the Project Vicinity[2] have been documented in the California Natural Diversity Data Base (CNDDB) (CDFW, 2020), in past studies (Psomas, 2004, 2006, 2008, 2011, 2013a, 2013b, 2013c, and 2013d), and in the Environmental Assessment (EA) for the previous Kern River No. 3 Project Relicensing (FERC and USFS, 1996). Three other special-status salamanders (Kern Plateau salamander, Greenhorn Mountains slender salamander, and Kern Canyon slender salamander) are known to be in the Project Vicinity but have not been identified as being present in the FERC Project Boundary.

6.0 STUDY APPROACH

LITERATURE REVIEW AND MAPPING

A new literature review will be conducted to determine if the regulatory status of any of these species has changed and if there are new reported occurrences in the vicinity of the Project.

FIELD SURVEYS

Special Status Salamanders

- Phase 1: Geographic Information System (GIS) Mapping and Habitat Surveys.
  - Utilizing online database queries (i.e., CNDDB) and literature reviews (Jockusch et al. (2012) of known locations of special-status salamanders will be mapped in relation to the Project study area.
  - Biologists will walk the study area looking for potentially suitable habitat for special-status salamanders based on habitat characteristics and known locations from Jockusch et al. (2012) and the CNDDB (CDFW, 2020). Suitable habitat locations will be mapped directly onto an iPad with pre-loaded survey area maps.
    - Any incidental observations of special-status salamanders or other species of interest will also be recorded.
  - While biologists are field verifying/mapping potential habitat, up to six Cover Board arrays for salamanders and other reptiles will be laid out. The arrays will consist of up to three different boards of varying sizes. The locations for the arrays have not yet been determined. The locations will be determined in the field following the GIS analysis and during the on-the-ground assessment of habitat features. The Cover Board arrays will be checked periodically and inspected during Phase 2 surveys.

[2] Project Vicinity is identified as lands surrounding the FERC Project Boundary within a 0.5-mile buffer and an approximate 100-foot buffer along the right bank (west shore) within the Fairview Dam Bypass Reach. The Fairview Dam Bypass Reach includes the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse tailrace.

- Phase 2: Visual Encounter Surveys

  - Survey sites for visual encounter surveys will be selected using the available information on potential habitat identified during the Phase 1 desktop analysis and habitat mapping. The actual number of survey sites and extent of survey area will depend on the results of the initial habitat assessment in the field during Phase 1.

  - Pedestrian visual encounter surveys will be seasonally timed to maximize the potential for observing these species based on life history and the literature review. Slender salamanders are generally easier to observe on rainy nights with moderate temperatures and a day or two following rain events while the habitat is still damp and temperatures are moderately cool. Surveys will target the January to March timeframe. Two separate surveys are planned.

  - During the visual encounter surveys, biologists will ground-truth the GIS-based map of potentially suitable habitat, and the extent of suitable habitat will be verified in the field and delineated using a Global Positioning System (GPS) unit or mapped directly on to an iPad. Any sightings of special-status salamanders and other incidental salamander sightings will be recorded with GPS.

    - Slender salamanders will be identified to species in the field to the extent possible based on Jockush et al. (2012), Stebbins (2003), and other references; however, they will not be collected for later identification.

  - Searches for special-status amphibians will be conducted during the day and at night along the stream and creek banks and in adjacent upland habitat concurrently with western pond turtle surveys.

  - Surveys will generally follow the methods described in Strain et al. (2009) and Grover (2006) for Area Constrained Surveys and may include lifting, overturning, and carefully replacing objects such as rocks, boards, and debris; carefully searching leaf litter and under loose tree bark; and inspecting burrows.

  - To reduce the likelihood of disease transmission, field biologists will employ the *Decontamination Protocol for Field Work with Amphibians and Reptiles in Canada* (Canadian Herpetofauna Health Working Group, 2017, or most recent revision), using methods that are effective against chytrid fungi, ranaviruses, and snake fungal disease. The protocol.

Western Pond Turtle

- Phase 1: GIS Mapping and Habitat Surveys described above will include habitat and on-the-ground habitat mapping for western pond turtle.

- Phase 2: Visual Encounter Surveys

  - Western pond turtles surveys will be timed to coincide with their typical breeding period in southern California, typically March through August. Two separate surveys periods are proposed. One early in the breeding season (March to May) and one later in the breeding season (June to August).

  - Surveys will be led by a team of qualified biologists with experience following the Visual Survey protocol for Western Pond Turtle (USGS, 2006).

  - Prior to the start of the surveys, aerial photographs at a 1-inch to 200-foot scale will be prepared for field use and map existing features and note any previous western pond turtle occurrences.

  - During the visual encounter surveys, biologists will ground-truth the GIS-based map of potentially suitable habitat, and the extent of suitable habitat will be verified in the field and delineated using an iPad in the field with pre-loaded survey area maps. Any sightings of western pond turtle will be recorded on an iPad.

  - During Phase 2, the 15-mile bypass reach will be survey for suitable pond turtle habitat, such as basking sites and slow water pools and ponds.

  - All additional wildlife species observed will be recorded in field notes to species (if possible) and location and included in the *BIO-3 General Wildlife Resources* Technical Memo.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. Standard GIS shapefiles, including metadata, will be provided to relevant agencies upon request. A California Native Species Field Survey Form will be completed for any special-status species observed during the pedestrian surveys and will be reported to the CNDDB. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

One year of desktop analysis and habitat assessment, and 1 year of visual encounter field surveys will occur for western pond turtle and special-status salamanders.

Date	Activity
Summer–Fall 2022	Phase 1: Conduct desk top analysis and habitat assessment field surveys
Spring–Summer 2023	Phase 2: focused visual encounter field surveys
August 2023	Provide Study Plan progress and schedule updates with ISR
Summer–Fall 2023	Analyze data and prepare Technical Memo
August 2024	Provide Technical Memo with USR

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $135,000, which includes field work, data compilation and analysis, and reporting.

10.0 REFERENCES

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BIO-3 GENERAL WILDLIFE RESOURCES STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Special-status wildlife species or U.S. Forest Service (USFS) Species of Conservation Concern (FSCC) that may be affected by Project operations and maintenance including:
  - Western yellow-billed cuckoo (*Coccyzus americanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), California condor (*Gymnogyps californianus*), and Pacific fisher (*Pekania pennant*).

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Project maintenance activities may result in direct and/or indirect effects on special-status wildlife species or FSCC.
- If special-status wildlife or FSCC are present within the study area, the data will be examined to determine the effects of Project maintenance activities on wildlife in the context of applicable regulatory requirements, including the most recent USFS Management Plan, the federal and state Endangered Species Acts (ESAs), the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA).

3.0 STUDY GOALS AND OBJECTIVES

- For the species listed below and any other special-status wildlife or FSCC, obtain additional information to supplement the existing information.
  - Western yellow-billed cuckoo
  - Southwestern willow flycatcher
  - Least Bell's vireo
  - California condor
  - Pacific fisher
- This will be done by:
  - Identifying and mapping their presence in the focused study area.
  - Identifying and mapping any potentially suitable nesting or denning habitat in the focused study area.
- Additionally, all other wildlife species observed during the field surveys will be documented.

4.0 STUDY AREA AND STUDY SITES

The wildlife study area shown on Figure 4-1 includes a 50-foot buffer around aboveground Project facilities including:

- Fairview Dam, intake, and sandbox
- Aboveground sections of the conveyance flowline, including the siphon
- Salmon and Corral Creek Diversions
- Pressure flume, forebay, and penstocks
- Project access roads
- Kern River No. 3 (KR3) Powerhouse and supporting maintenance buildings

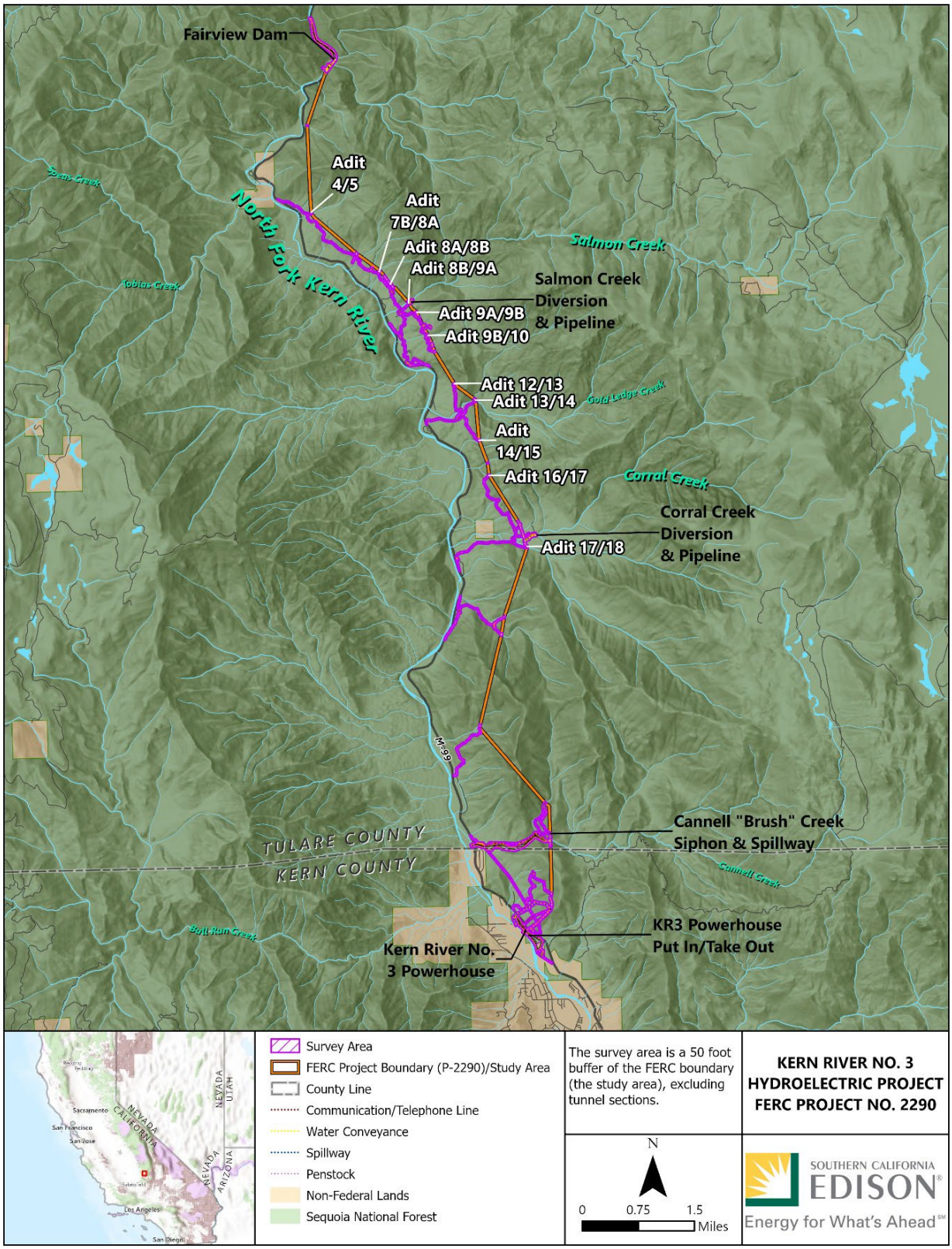

Figure 4-1. Wildlife Study Area.

5.0 EXISTING INFORMATION

Wildlife occurrences within the Project Vicinity[1] have been documented in the California Natural Diversity Data Base (CNDDB) (CDFW, 2020), by past studies (Psomas, 2004, 2006, 2008, 2011, 2013a, 2013b, 2013c, and 2013d) and in the Environmental Assessment (EA) for the previous KR3 Project Relicensing (FERC and USFS, 1996). Since those studies were undertaken new species have been added to the federal and state endangered species lists, and others have been deemed sensitive by various government agencies.

6.0 STUDY APPROACH

6.1. LITERATURE REVIEW

A literature review will be conducted to:

- Determine if any additional special-status wildlife species or FSCC have been identified as having the potential to occur within the study area or in the surrounding Project Vicinity.

- Verify the protective status of any of the previously identified special-status species and will review any new literature on the ecology and life history of special-status wildlife species.

Additionally:

- USFS vegetation alliances will be cross-referenced with the criteria for potentially suitable habitat for the above listed species.

- Where the criteria for potentially suitable habitat intersect or match the USFS vegetation alliances, those areas will be mapped as target areas for field surveys for the above species.

6.2. FIELD SURVEYS

6.2.1. PEDESTRIAN SURVEYS

- Surveys will be performed at appropriate times of the year (e.g., nesting season) to maximize the opportunity to observe western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, California condor, and Pacific fisher as determined by the literature review (USFWS 1998, 2002, 2020; Sogge et al., 2010; Spencer et al., 2016).

[1] Project Vicinity is identified as lands surrounding the FERC Project Boundary within a 0.5-mile buffer and an approximate 100-foot buffer along the right bank (west shore) within the Fairview Dam Bypass Reach. The Fairview Dam Bypass Reach includes the 16-mile bypass reach of the North Fork Kern River between Fairview Dam and the KR3 Powerhouse tailrace.

- During surveys in appropriate habitat, a biologist holding an appropriate 10(A) permit from the U.S. Fish and Wildlife Service (USFWS) will play calls for western yellow-billed cuckoo and southwestern willow flycatcher. Per USFWS guidelines, the biologist will notify the USFWS 15 days prior to the start of surveys on which recorded vocalizations will be used. Because of seasonal variability, three replicate surveys are planned between April and September.

- Surveys for riparian birds will be schedule to begin at dawn. All survey biologists are experienced in surveying for birds by-ear, as that is a standard practice.

- Prior to the start of the surveys, aerial photographs of each facility at a 1-inch to 200-foot scale will be prepared for field use and will include any known wildlife occurrences and areas of potentially suitable habitat for special-status wildlife.

- Biologists will perform pedestrian surveys within the wildlife study area defined above to: (1) ground-truth the potentially suitable habitat maps developed during the literature review and (2) document any wildlife observations. Pedestrian surveys will be performed with binoculars to directly observe wildlife.

- Access roads will be driven slowly in teams of two, with one biologist acting as an observer.

- Access roads will be walked in areas of representative habitat.

- Active searches for reptiles and amphibians will be conducted. Methods will include lifting, overturning, and carefully replacing objects such as rocks, boards, and debris. Cover boards (Strain et al., 2009; Grover, 2006) will be placed throughout the survey area during Phase 1 of special-status salamander surveys and be checked for salamanders and other amphibians and reptiles during general wildlife surveys.

- Evening spot-lighting surveys will be undertaken as road/safety conditions allow.

- Biologists will search for signs of bats (staining on walls and guano piles) at the powerhouse and associated out buildings. If signs are detected, acoustic surveys will be performed.

- Mammals will be identified by visual recognition or evidence of diagnostic sign, including scat, footprints, scratch-outs, dust bowls, burrows, and trails.

- Observations of active or abandoned raptor nests will be recorded using an iPad with pre-loaded survey area maps.

- Observations of special-status wildlife species will be recorded on an iPad with pre-loaded surveys maps.

- All wildlife species observed will be recorded in field notes to species (if possible).

Trail Camera Surveys

- Biologists will install up to six trail cameras at locations likely to capture wildlife—specifically Pacific fisher—that may not be observable during pedestrian surveys. Locations of cameras will be determined in consultation the relevant resource agencies. All cameras will be able to take night photographs.

- Cameras will be left set-up for 1 to 2 years. Memory cards will be replaced every 6 months to download photos and document wildlife captured on camera. Camera placement will be reassessed after reviewing the second round of data.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

One year of desktop analysis and field habitat assessment, and 1 year of visual encounter field surveys will occur.

Date	**Activity**
Summer–Fall 2022	Conduct desktop analysis and habitat assessment field surveys
Spring–Summer 2023	Phase 2 focused surveys
August 2023	Provide Study Plan progress and schedule updates with ISR
Summer–Fall 2023	Analyze data and prepare Technical Memo
August 2024	Provide Technical Memo with USR

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $80,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

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BOT-1 General Botanical Resources Study Plan

Kern River No. 3 Hydroelectric Project
FERC Project No. 2290

Prepared for:

Kernville, California

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Special-status botanical resources, including U.S. Forest Service (USFS) Species of Conservation Concern (FSCC) that are either known to or have the potential to occur in the Project Area (Table 3-1) and may be affected by Project operations and maintenance. These species include the following state listed species:
  - Mojave tarplant (*Deinandra mohavensis*) and Tracy's eriastrum (*Eriastrum tracyi*).
- Introduction and/or spread of invasive plant populations with a high ecological impact due to Project maintenance activities (Table 3-2).

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Project maintenance activities may result in direct and/or indirect effects on sensitive natural communities and special-status plants or FSCC.
- Project maintenance activities may result in the spread or introduction of invasive plants.
- If special-status botanical resources or FSCC are found to be present within the study area, the data will be examined to determine the effects of Project maintenance activities in the context of applicable regulatory requirements, including the most recent USFS Management Plan, the federal and state Endangered Species Acts (ESAs), the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA).

3.0 STUDY GOALS AND OBJECTIVES

- Obtain additional information to supplement the existing information regarding special-status botanical resources in the study area by:
  - Documenting the presence of Mojave tarplant and Tracy's eriastrum
  - Mapping any sensitive natural communities
  - Documenting the presence of other special-status plants including FSCC
  - Ground-truthing USFS vegetation mapping
  - Documenting non-native invasive plants with high ecological impact (Cal-IPC, 2020)

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Table 3-1. Special-Status Plant Species That Are Known or Have the Potential to Occur

Species Name	Status Federal/State/CRPR /USFS	Blooming Period	Elevation Range	Habitat	Potential to Occur
Known to Occur					
Palmer's mariposa lily *Calochortus palmeri* var. *palmeri*	–/–/1B.2/FSS	April–July	2,325–7,840	Chaparral, lower montane coniferous forest, meadows and seeps	Known to occur. Suitable habitat is present and at least one population is located within the Project Vicinity (CDFW, 2020).
Mojave tarplant *Deinandra mohavensis*	–/SE/1B.3/FSS	(sometimes May) June–October (sometimes January)	2,095–5,250	Chaparral, coastal scrub, riparian scrub	Known to occur. Localities reported include “Kernville” and Corral Creek near the Kern River within the Project Vicinity (CCH, 2020).
Kern Canyon clarkia *Clarkia xantiana* subsp. *parviflora*	–/–/4.2/–	May–June	2,295–11,875	Chaparral, cismontane woodland, Great Basin scrub, valley and foothill grassland	Known to occur. This plant is known from several locations both inside and outside of the Project Vicinity within the Kern River drainage (CCH, 2020; CDFW, 2020).
Rose-flowered larkspur *Delphinium purpusii*	–/–/1B.3/FSS	(sometimes March) April–May	980–4,395	Chaparral, cismontane woodland, pinyon and juniper woodland	Known to occur. Suitable habitat present and several populations are known to occur within the Project Vicinity (CCH, 2020).
Kern River daisy *Erigeron multiceps*	–/–/1B.2/FSS	June–September	4,920–8,315	Meadows and seeps, openings in upper montane coniferous forest	Known to occur. Several populations known from the Project Vicinity (CCH, 2020; CDFW, 2020).
Piute cypress *Hesperocyparis nevadensis*	–/–/1B.2/–	NA	2,360–6,005	Closed-cone coniferous forest, chaparral, cismontane woodland, pinyon and juniper woodland	Known to occur. Two locations recorded within the Project Vicinity with several just outside of the Project Vicinity (CCH, 2020; CDFW, 2020).
Prairie wedge grass *Sphenopholis obtusata*	–/–/2B.2/–	April–July	980–6,560	Cismontane woodland, meadows, streambanks, and seeps	Known to occur. Northern portion of Project Vicinity in limestone cliffs Kern River Canyon (CCH, 2020; CDFW, 2020).
Shevock's copper moss *Mielichhoferia shevockii*	–/–/1B.2/FSS	NA	2,460–4,595	Areas of cismontane woodland with metamorphic rock and mesic soils	Known to occur. One CNDDB record located along the Kern River within the Project Vicinity (CDFW, 2020)
May Occur					
Call's angelica *Angelica callii*	–/–/4.3/–	June–July	3,605–6,560	Cismontane woodland, lower montane coniferous forest	May occur. This species has been recorded less than 1 mile north of the Project Vicinity (CCH, 2020)
Alkali mariposa lily *Calochortus striatus*	–/–/1B.2/FSS	April–June	225–5,235	Moist alkaline and/or mesic sites in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps	May occur. Potentially suitable habitat is present; nearest record is less than 1 mile southeast of the Project Vicinity near Kernville (CCH, 2020).
Kern River evening-primrose *Camissonia integrifolia*	–/–/1B.3/–	(sometimes April) May	2,295–3,280	Chaparral	May occur. Suitable habitat is present; and the nearest record is in rabbitbush scrub approximately 9 miles southeast of the Project Vicinity (CCH, 2020).
White pygmy-poppy *Canbya candida*	–/–/4.2/FSS	March–June	1,965–4,790	Sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland	May occur. Several populations have been recorded in Cyrus Canyon, approximately 3.5 miles south of the Project Vicinity, and one location was recorded as “Kernville” in 1891, which is less than 1 mile south of the Project Vicinity (CCH, 2020). Given the widespread nature of the known occurrences in the region, this plant should be considered even though habitat types are not present.
Muir's tarplant *Carlquistia muirii*	–/–/1B.3/FSS	July–August (sometimes October)	2,475–8,200	Dry, open sites on granitic soil in montane chaparral, lower montane coniferous forest, upper montane coniferous forest	May occur. Potentially suitable habitat is present, although records in the region are within chaparral types that are typically found at higher elevations; nearest record is approximately 2.7 miles west of Project Vicinity (CCH, 2020).
Tulare cryptantha *Cryptantha incana*	–/–/1B.3/FSS	June–August	4,690–7,055	Gravelly or rocky areas in lower montane coniferous forest	May occur. Potentially suitable habitat is present several populations recorded within 5 miles of the Project Vicinity (CCH, 2020; CDFW, 2020).

Species Name	Status Federal/State/CRPR /USFS	Blooming Period	Elevation Range	Habitat	Potential to Occur
Unexpected larkspur *Delphinium inopinum*	–/–/4.3/FSS	May–July	6,200–9,185	Areas with metamorphic rocks in upper montane coniferous forest	May occur. Although the Project Vicinity is outside of the published elevation range and habitat for this species, a record has been reported from about 2.5 miles south of the Project Vicinity at Kern Hot Springs with habitat similar to the Project Vicinity in the surrounding area (CCH, 2020).
Calico monkeyflower *Diplacus pictus*	–/–/1B.2/–	March–May	325–4,690	Broadleafed upland forest, cismontane woodland	May occur. Suitable habitat is present; numerous populations are known from as close as 12 miles south and west of the Project Vicinity (CCH, 2020), with several records in habitat similar to the Project Vicinity.
Tracy's eriastrum *Eriastrum tracyi*	–/CR/3.2/FSS	May–July	1,030–5,840	Chaparral, cismontane woodland, valley and foothill grassland	May occur. Suitable habitat is present; records less than 1 mile north and 6 miles southeast of the Project Vicinity in similar habitat (CCH, 2020; CDFW, 2020).
The Needles buckwheat *Eriogonum breedlovei* var. *shevockii*	–/–/4.3/–	(sometimes June) July–September	5,295–8,450	Granite crevices; pinyon and juniper woodland, upper montane coniferous forest	May occur. Although potential vegetation types are not present, granite outcrops and crevices occur in Project Vicinity; several records approximately 2.5 miles west of Project Vicinity near Baker Point (CCH, 2020).
Two-colored monkeyflower *Erythranthe discolor*[c]	///FSS	June–July	4,265–8,200	Openings along small streams, meadow edges, generally in granitic soils	May occur. Suitable habitat is present; several records in vicinity of Project Vicinity in similar habitat (CCH, 2020).
Kernville poppy *Eschscholzia procera*	–/–/3/–	June–July (sometimes August)	2,655–3,365	Sandy floodplains in cismontane woodland	May occur. Suitable habitat is present on the Project Vicinity and populations are known from the vicinity (CCH, 2020).
Delicate bluecup *Githopsis tenella*	–/–/1B.3/–	April–June	1,065–6,235	Chaparral, cismontane woodland	May occur. Suitable habitat is present and there are records from approximately 9 miles southeast of the Project Vicinity in similar habitat (CCH, 2020).
Shevock's golden-aster *Heterotheca shevockii*	–/–/1B.3/FSS	August–November	750–2,955	Chaparral, cismontane woodland	May occur. Suitable habitat is present; records approximately 11 miles south-southwest of the Project Vicinity in similar habitat along the lower Kern River canyon (CCH, 2020).
Cut-leaf checkerbloom *Sidalcea multifida*	–/–/2B.3/–	May–September	5,740–9,185	Great Basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland	May occur. A small portion of the Project Vicinity is within the elevation range for this species; general vegetation may be present, conditions in the Project Vicinity are unlikely to support this species. One record is located approximately 2.5 miles north of the northern portion of the Project Vicinity (CDFW, 2020). Note: One CCH specimen location is within the Project Vicinity; however, the specimen label states “in open Yellow Pine forest” and “along fork of Kern Trail between Lloyd Meadow and canyon rim Sequoia National Forest” (CCH, 2020). Lloyd Meadow is 12 miles north of the northern limit of the Project Vicinity.

CNDDB = California Natural Diversity Data Base; CRPR = California Rare Plant Rank; FSS = Forest Service Sensitive; USFS = U.S. Forest Service

Status:

Federal

FE Federally listed as endangered
FT Federally listed as threatened
– No federal status

State

SE California State listed as endangered
ST California State listed as threatened
SR California State Listed as rare
– No state status

CRPR (California Rare Plant Rank) List Ranks

List 1B Plants rare, threatened, or endangered in California and elsewhere
List 2B Plants rare, threatened, or endangered in California, but more common elsewhere
List 3 More information needed about this plant, a review list
List 4 Plants of limited distribution, a watch list

CRPR Threat Ranks

0.1 Seriously threatened in California (high degree/immediacy of threat)
0.2 Fairly threatened in California (moderate degree/immediacy of threat)

Table 3-2. Non-Native Invasive Plants Potentially Occurring in the Project Vicinity with a High Ecological Impact Rating (Cal-IPC)

Scientific Name	Common Names
Potentially Occurring	
Aegilops triuncialis	Barb goatgrass
Arundo donax	Giant reed
Brassica tournefortii	Sahara mustard
Bromus madritensis subsp. *rubens*	Red brome
Bromus tectorum	Cheatgrass
Carthamnus lanatus	Woolly distaff thistle
Centaurea solstitialis	Yellow starthistle
Centaurea stoebe subsp. *micranthos*	Spotted knapweed
Cortaderia jubata	Jubatagrass
Cortaderia selloana	Pampasgrass
Cytisus scoparius	Scotch broom
Elymus caput-medusae	Medusahead
Euphorbia virgata	Leafy spurge
Genista monspessulana	French broom
Hedera helix	English ivy
Lepidium latifolium	Perennial pepperweed
Lythrum salicaria	Purple loosestrife
Onopordum acanthium	Scotch thistle
Rubus armeniacus	Himalayan blackberry
Sesbania punicea	Scarlet wisteria
Spartium junceum	Spanish broom
Tamarix chinensis	Chinese tamarisk
Tamarix parviflora	Smallflower tamarisk
Tamarix ramosissima	Saltcedar
Ulex europaeus	Gorse

4.0 STUDY AREA AND STUDY SITES

The botanical resources study area is shown on Figure 6-1 and includes a 50-foot buffer around all aboveground Project facilities including:

- Project roads
- Fairview Dam, intake, and sandbox
- Aboveground sections of the conveyance flowline, including the siphon
- Salmon and Corral Creek Diversions
- Pressure flume, forebay, and penstocks
- Kern River No. 3 (KR3) Powerhouse Put-in/Take out parking area
- KR3 Powerhouse and supporting maintenance buildings

5.0 EXISTING INFORMATION

Special-status plant occurrences and sensitive vegetation communities have been documented by past studies (Psomas, 2004, 2006, 2008, 2011, 2013a, 2013b, and 2013c), the Environmental Assessment (EA) for the previous KR3 Project Relicensing (FERC and USFS, 1996), and the California Natural Diversity Database (CNDDB) (CDFW, 2020). Since those studies were undertaken, new occurrences have been recorded to the CNDDB, new species have been added to the federal and state special-status species lists, and others have been deemed sensitive by various government and non-governmental organizations (NGOs).

6.0 STUDY APPROACH

6.1. LITERATURE REVIEW AND HABITAT MAPPING

A literature review will be conducted to determine if any additional special-status botanical resources have been identified as having the potential to occur within the Project Area. This literature review will also verify the protective status of any of the previously identified special-status plants and will review any new literature on the ecology and life history of these resources. The literature review will be used to define potentially suitable habitat for special-status plants, including Mojave tarplant and Tracy's eriastrum.

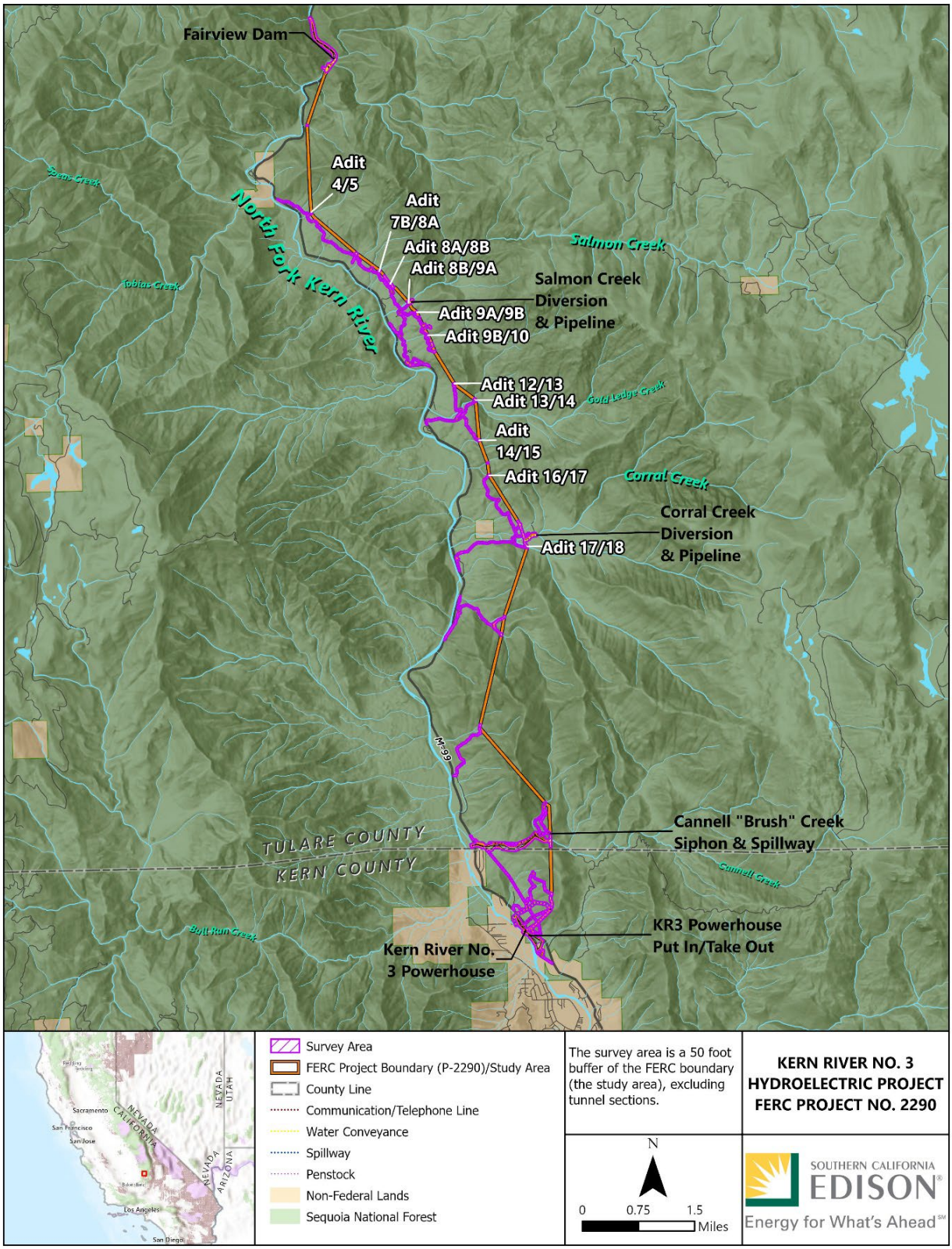

Figure 6-1. Botanical Study Area.

Habitat mapping will include the following.

- Existing vegetation alliances from the USFS will be overlain onto the study area maps, and information will be verified using recent photographs or aerial footage of the study area.
- Vegetation alliances will be cross-referenced to defined habitats for special-status plants.
- Areas of potentially suitable habitat for special-status plants will be mapped over the study area.

6.2. FIELD SURVEYS

Surveys will be floristic in nature and performed in spring (March through April), summer (June through July), and late summer/fall (August through September) to maximize the opportunity of observing Mojave tarplant and Tracy's eriastrum as determined by the literature review and in consultation with the relevant resource agencies.

Prior to the start of surveys, aerial photographs of each Project facility at a 1-inch to 200-foot scale will be prepared for field use and will include:

- Known occurrences of special-status botanical resources
- Areas of potentially suitable habitat for special-status botanical resources

Biologists will perform pedestrian surveys at each study site to identify and map existing conditions and document any observed plants. Natural communities previously mapped by USFS will be verified or adjusted if conditions on the ground are not consistent with previously identified resources. During the pedestrian surveys, biologists will ground-truth the geographic information system (GIS)-based mapping of potentially suitable habitat as identified by the literature review.

Plants will be identified by visual recognition and comparison to plant keys using *The Jepson Manual* (Baldwin et al., 2012) and supplemented by the *Jepson eflora* (Jepson Flora Project, 2020). Existing USFS vegetation community mapping will be referenced while in the field, and the extent of each botanical community will be verified. Observations of special-status botanical resources and non-native invasive plant species (high ecological impact) will be recorded using a hand-held Global Positioning System (GPS) unit and mapped onto the field map. All plant species observed will be recorded in field notes to species, subspecies, or variety (if possible), and the vegetation community in which it is found will be recorded.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an

update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. Standard GIS shapefiles, including metadata, will be provided to relevant agencies upon request. A California Native Species Field Survey Form will be completed for any special-status species observed during the pedestrian surveys and will be reported to the CNDDB. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

One year of desktop analysis, habitat assessment, and field surveys will occur.

Date	Activity
Spring–Summer 2022	Conduct desktop analysis, habitat mapping, and field surveys
Winter 2022/2023	Analyze data and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

ISR = Initial Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $120,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

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REC-1 WHITEWATER BOATING STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Evaluation of whitewater boating opportunities and flow needs for a range of watercraft in the Fairview Dam Bypass Reach (the 16-mile bypass reach of the North Fork Kern River [NFKR] between Fairview Dam and the Kern River No. 3 [KR3] Powerhouse tailrace).

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Kern River No. 3 Hydroelectric Project (Project) operations at Fairview Dam divert water from the NFKR to the KR3 Powerhouse, potentially affecting whitewater boating opportunities in the 16-mile Fairview Dam Bypass Reach and timing of flows in the river segment downstream of the KR3 Powerhouse.
- Information obtained in this study may be used to document whitewater boating opportunities over a range of flows.
- Describe existing flow information available to public, assess usability of flow information, and seek improved communication of real-time flow information in the bypass.

3.0 STUDY GOALS AND OBJECTIVES

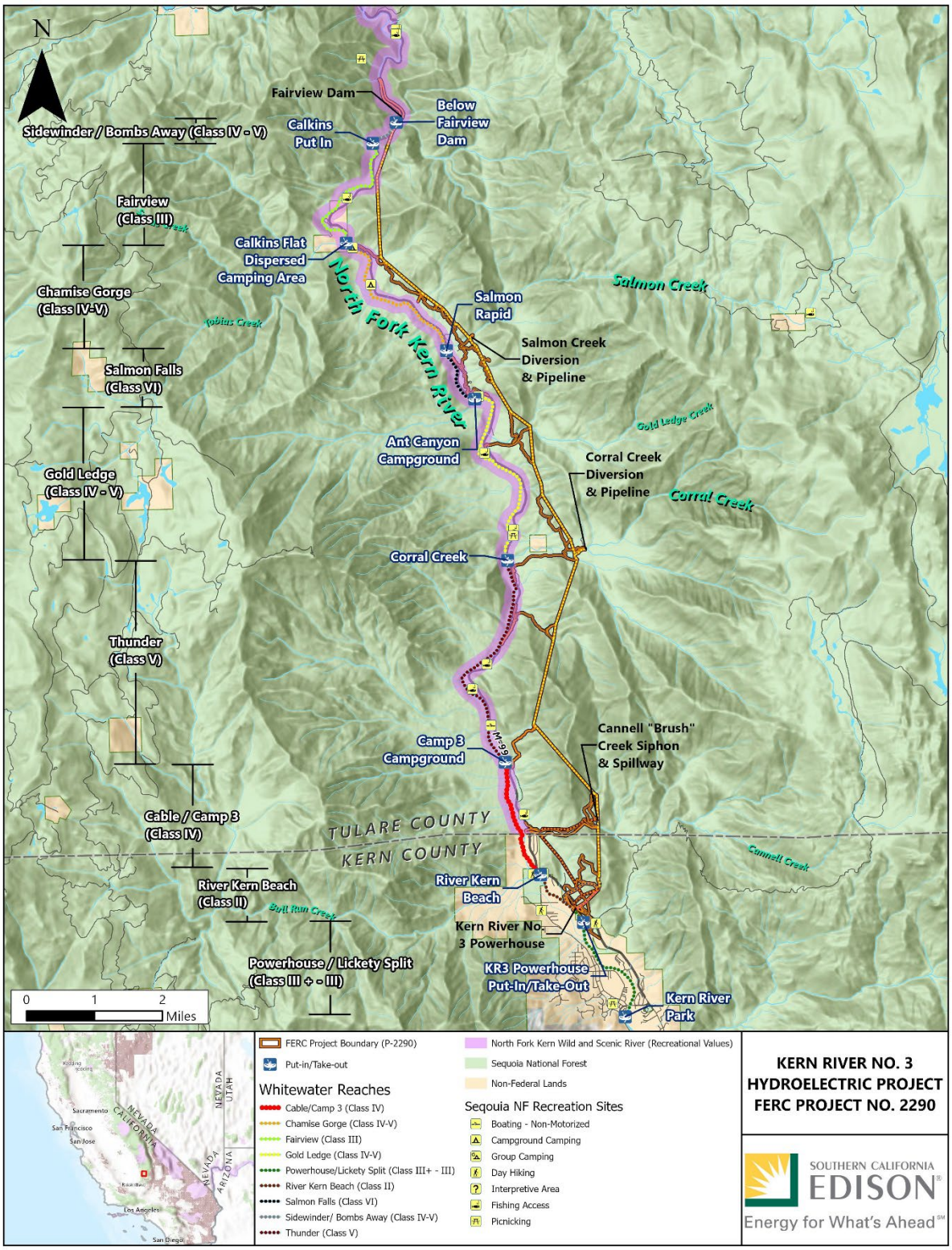
The goals of this study are to (1) document the whitewater boating opportunities and the range of whitewater boating flows in the Fairview Dam Bypass Reach from Fairview Dam to the KR3 Powerhouse and the NFKR from the KR3 Powerhouse to the Kern River Park in Kernville under current conditions; and (2) identify potential operational constraints and (3) evaluate public safety concerns associated with boating flows.

The study has the following objectives:

- Describe the whitewater boating segments in the NFKR from Fairview Dam to Kernville including the length, whitewater difficulty, name of key rapids, and typical access locations for put-in and take-out.
- Identify the range of flows (minimum acceptable and optimum) that would provide whitewater boating opportunities in each whitewater segment for a variety of watercraft including, kayaks, rafts, packrafts, stand-up paddleboards, and body boards.
- Quantify the annual frequency that minimum acceptable and optimum whitewater flows occur in each whitewater segment with Project operations and unimpaired flows for each watercraft type.
- Document potential conflicts of boating flows with other recreation users and identify strategies to mitigate those conflicts.

4.0 STUDY AREA AND STUDY SITES

The study area includes the 16-mile Fairview Dam Bypass Reach from Fairview Dam to the KR3 Powerhouse and the NFKR from the KR3 Powerhouse to the Kern River Park in Kernville. The Fairview Dam Bypass Reach contains eight whitewater segments ranging in whitewater difficulty from Class II to Class VI (Figure 4-1). The river can be accessed from multiple locations including designated and informal access locations.



5.0 EXISTING INFORMATION

Whitewater boating is a well-established activity on the Kern River with a long history of commercial and non-commercial use in a variety of watercraft. The whitewater community has a deep knowledge and understanding of flow dependent recreation opportunities in the 16-mile Fairview Dam Bypass Reach. Southern California Edison (SCE) conducted a Whitewater Flow Study (SCE, 1994) that will be reviewed during the Desktop Review as part of Phase 1. The Sequoia National Forest manages special use permits authorizing commercial whitewater use on the Fairview Dam Bypass Reach. Whitewater opportunities in the bypass reach are documented in commercial outfitter brochures and websites. Whitewater guidebooks and online resources provide detailed descriptions of the whitewater boating opportunities and whitewater difficulty across a broad range of flows.

6.0 STUDY APPROACH

The Whitewater Boating Resource Evaluation Study follows the methods in *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker et al., 2005). The 2005 publication outlines a sequential framework to investigate flow dependent recreation opportunities using various investigative tools across three progressive levels of study. Progression through the framework affords a better understanding of the whitewater recreation opportunities and flow needs in each segment of the bypass reach. The three levels of study increase data resolution as investigations progress from one level to the next and share interim results earlier in the relicensing process across resource disciplines.

6.1. LEVEL 1: DESKTOP REVIEW OF EXISTING INFORMATION

The Level 1 Desktop Review of Existing Information will include the following elements:

- Literature review
  - Literature review will include reviewing the 1994 Whitewater Flow Study (SCE, 1994), whitewater guidebooks, magazine publications with a focus on whitewater recreation and online river information pages.
  - A table summarizing whitewater opportunities in the Kern River basin will be compiled that will include the name of the whitewater run, river name, put-in and take-out location, length, gradient (feet per mile), and whitewater difficulty.
    - Detailed information on the whitewater segments in the 16-mile Fairview Dam Bypass Reach will be included in the table. This will include length, gradient, whitewater difficulty as well as formal and informal access points.
  - Summarize commercial and private whitewater boating use where available using records from the Sequoia National Forest and/or provided by local commercial outfitters.
  - Summary of regulatory agency resource management goals in the Fairview Dam Bypass Reach and other tribal interests.

- Hydrology summary
  - Utilizing the hourly gage data compiled as part of WR-2 Hydrology Study Plan, include a summary of the hydrology in the 16-mile Fairview Dam Bypass Reach under impaired and unimpaired conditions.
  - The hydrology summary will include discharge frequency, timing, duration, and magnitude. Data will be reported using mean, median, interquartile and range.
- Project facility evaluation
  - Analysis of Fairview Dam impoundment storage and gate operation.
- Structured interviews:
  - Conduct structured interviews with individuals in the whitewater boating community representative of a range of watercraft, skill levels and knowledge of the whitewater boating segments in the 16-mile Fairview Dam Bypass Reach as well as commercial and non-commercial backgrounds.
  - The interviews will focus on individual knowledge of the Fairview Dam Bypass Reach, estimated range of preferred flows for each segment for respective watercraft, flow information needs and use patterns for commercial and non-commercial boaters.

Information obtained in the Level 1 investigation will be used to support and guide the Level 2 Limited Reconnaissance.

6.2. LEVEL 2: LIMITED RECONNAISSANCE

The Level 2 investigation will include a limited reconnaissance site visit with study participants consisting of agency staff and boaters as described in the study guidance in Whittaker et al. (2005). The elements of the Level 2 Limited Reconnaissance are described below.

Limited Reconnaissance

- Site visit for direct observation of the whitewater boating segments in the 16-mile Fairview Dam Bypass Reach with a group of study participants consisting of agency staff and boaters
  - The boating community will nominate study participants for the Level 2 Limited Reconnaissance Site Visit. Study participant composition should be representative of a range of watercraft, skill levels and knowledge of the whitewater boating segments in the 16-mile bypass as well as commercial and non-commercial backgrounds. For logistical and safety reasons, the Level 2 Limited Reconnaissance will consist of 6 to 12 individuals.
- Information collected during the Level 2 Limited Reconnaissance may include:
  - Preliminary estimates of flow preferences for respective watercraft types for each whitewater segment based on recommendations from study participants;

- Information on factors influencing flow preferences for respective whitewater segments based on recommendations from study participants;
- Recreation use patterns in the Fairview Dam Bypass Reach, e.g., watercraft use by segment, segments typically combined, preferred segments for respective watercraft types and skill levels, and timing of use per respective whitewater segment (weekday, weekend, time of day);
- Visits to formal and informal access locations used for respective whitewater segments; and
- Flow information use and needs:
  - How do boaters currently utilize flow information?
  - How do boaters assess flow conditions on-site for respective whitewater segments, e.g., visual inspection of staff gages, rocks, etc.?
  - What are the whitewater boating community's flow information needs?

The Level 2 Limited Reconnaissance Site Visit coupled with the study participant recommendations will increase the precision of estimated boating flow ranges for respective whitewater segments and watercraft types as well as knowledge of recreation use patterns in the Fairview Dam Bypass Reach. Information obtained in the Level 1 and Level 2 investigations will be used to support and guide planning and implementation for the Level 3 Intensive Study.

6.3. LEVEL 3: INTENSIVE STUDY

The Level 3 Intensive Study will collect flow preference information directly from whitewater boaters for a variety of watercraft for the respective whitewater segments using a flow comparison survey as described by Whittaker et al. (2005). SCE will utilize a flow comparison survey approach rather than a controlled flow study. The Flow Comparison Survey would be similar to other studies conducted by American Whitewater to collect flow preference information and recreation use patterns on rivers where a controlled flow study is not possible and/or have unpredictable flow conditions (American Whitewater, 2017 and 2021).

The lack of storage in the reservoir at Fairview Dam coupled with the uncertainty of the snowmelt hydrograph of the NFKR severely limits the scheduling and flow volume for a controlled flow study. Recommended boating flows in guidebooks and online greatly exceed the capacity of Fairview Dam to provide flows in a controlled flow study format. The online flow comparison survey resolves the limitations of a controlled flow study at the Project. The online flow comparison survey is not limited to the unpredictable snowpack and associated flows during the ILP study period. Whitewater boaters can provide input based on experiences over a wide range of water year types, and the online approach greatly expands the pool of study participants regardless of geographic location or schedule.

The goal of the survey is to improve the precision for developing flow preference curves for a variety of watercraft types for the respective whitewater segments in the 16-mile Fairview Dam Bypass Reach.

The elements of the Level 3 Intensive Study are described below.

- A whitewater flow comparison survey published online accessible.
  - Information collected in Levels 1 and 2 will be used to develop an online whitewater flow comparison survey.
  - The online whitewater flow comparison survey will be designed to obtain information on flow preferences in the Fairview Dam Bypass Reach. Survey questions will ask respondents to rate the acceptability of a range of flows for each whitewater segment and watercraft type, timing of use, preferred whitewater segments, river access locations, flow information needs and comparison with other whitewater opportunities in the Kern River basin. The range of flows presented in comparative flow questions will be based on information gathered in Levels 1 and 2.
  - The link to the online whitewater flow comparison survey will be distributed to local, regional and national whitewater boating groups and accessible on the KR3 relicensing website.
- Whitewater focus group
  - The Level 3 Intensive Study will include a focus group designed to gather information from boaters with direct experience in the Fairview Dam Bypass Reach. Focus group questions will prompt discussion on suitable range of flows for a variety of watercraft for each whitewater segment; navigability and whitewater difficulty across a range of flows; preferred whitewater segment(s) in the Fairview Dam bypass; daily, weekly, and seasonal use patterns; flow information needs; river access; safety; other areas of concern; and uniqueness of the Fairview Dam Bypass Reach compared to other opportunities in the region.
  - Focus group participants will be identified in advance and nominated collaboratively with the whitewater community. Selection will be based in part on knowledge of whitewater boating opportunities in the Kern River basin and direct experience in the Fairview Dam bypass. The focus group will include representation across watercraft types, commercial and non-commercial as well as the local boating community and boaters traveling to paddle on the bypass from outside the North Fork Kern watershed.
- Hydrology analysis
  - Quantify annual number of days of whitewater boating using flow preference curves developed from data collected in the online flow comparison survey and supplemented with information obtained in focus groups. Analysis will be done for respective watercraft in each whitewater segment under impaired and unimpaired hydrology in Fairview Dam bypass.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. The information provided in the ISR and USR will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

Date	Activity
Summer/Fall 2022	Conduct Level 1 Desktop Study
Spring 2023	Conduct Level 2 Limited Reconnaissance
August 2023	Provide study plan progress, including Level 1 and Level 2 results, and any schedule updates in the Initial Study Report (ISR)
Spring/Summer/Fall 2023	Implement Level 3 Intensive Study
August 2024	Provide Level 3 results in the Updated Study Report (USR)

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The cost estimate (2022 dollars) for the study is $100,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting for all three Levels.

10.0 REFERENCES

American Whitewater. 2017. *Dolores River Boating Survey*. Accessed: February 17, 2022. Retrieved from: https://www.americanwhitewater.org/content/Article/view/article_id/33759/.

American Whitewater. 2021. *South Platte Recreational Flow Study*. Accessed: February 17, 2022. Retrieved from: https://www.americanwhitewater.org/content/Article/view/article_id/jAtde6mnf7fUPZoVvAvD9/.

SCE (Southern California Edison). 1994. *Kern River Flow Study*. July 12.

Whittaker, Doug, Bo Shelby, and John Gangemi. 2005. *Flows and Recreation: A Guide to Studies for River Professionals*. Washington, DC: Hydropower Reform Coalition and National Park Service Hydropower Recreation Assistance Program.

REC-2 RECREATION FACILITIES USE ASSESSMENT STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

To what extent and where visitors utilize developed recreation sites (i.e., campgrounds, day use facilities, and whitewater boating access locations) as a result of conditions induced from Kern River No. 3 (KR3) Project operations, specifically changes in instream flows.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

The Federal Energy Regulatory Commission (FERC) established seven criteria (18 Code of Federal Regulations [CFR] § 5.9(b)) as part of the study request process. Criterion five instructs study proponents to explain the nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements. Current KR3 Project operations may promote use of the Project Area for recreational purposes.

The North Fork Kern River (NFKR) is an active recreation corridor, with numerous recreation facilities developed by the U.S. Forest Service (USFS) Sequoia National Forest (SQF). Two recreation sites within the FERC Project Boundary include Willow Creek Take-Out, located above the Fairview Dam on USFS lands, and the KR3 Powerhouse Put-in/Take-out, located downstream of the KR3 Powerhouse on Southern California Edison (SCE)-owned lands. The remaining recreation sites along the Fairview Dam Bypass Reach[1] are not located within or adjacent to the FERC Project Boundary.

During the previous relicensing process, SCE developed a *Recreation Plan* (SCE, 1997) in accordance with the FERC license (License Article 421), which outlined specific one-time capital improvements SCE would undertake to improve or enhance three USFS-owned recreation sites along the Fairview Dam Bypass Reach: Fairview Campground, Thunderbird Group Campground and whitewater put-in/take out, and Hospital Flat Campground. .

3.0 STUDY GOALS AND OBJECTIVES

- The Recreation Facilities Use Assessment (Study) would characterize visitor use along the NFKR at recreation sites within the FERC Project Boundary and along the Fairview Dam Bypass Reach.

- Information from this Study will help inform which sites may have a nexus to the Project.

[1] The Fairview Dam Bypass Reach is defined as the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse trailrace.

4.0 STUDY AREA AND STUDY SITES

The study area and specific study sites will be focused on developed campgrounds, day-use areas, and river access points within the FERC Project Boundary and along the Fairview Dam Bypass Reach. The locations are listed below and shown on Figure 4-1.

- Willow Point whitewater take-out
- Roads End whitewater put-in
- Fairview Campground
- Goldledge Campground and whitewater put-in/take-out
- Corral Creek Picnic Site and whitewater take-out
- Hospital Flat Campground
- Thunderbird Group Campground and whitewater put-in/take-out
- Camp 3 Campground and whitewater put-in/take-out
- Headquarters Campground
- Riverkern Beach Picnic Site
- KR3 Powerhouse whitewater put-in/take-out
- Halfway Group Campground and whitewater put-in/take-out

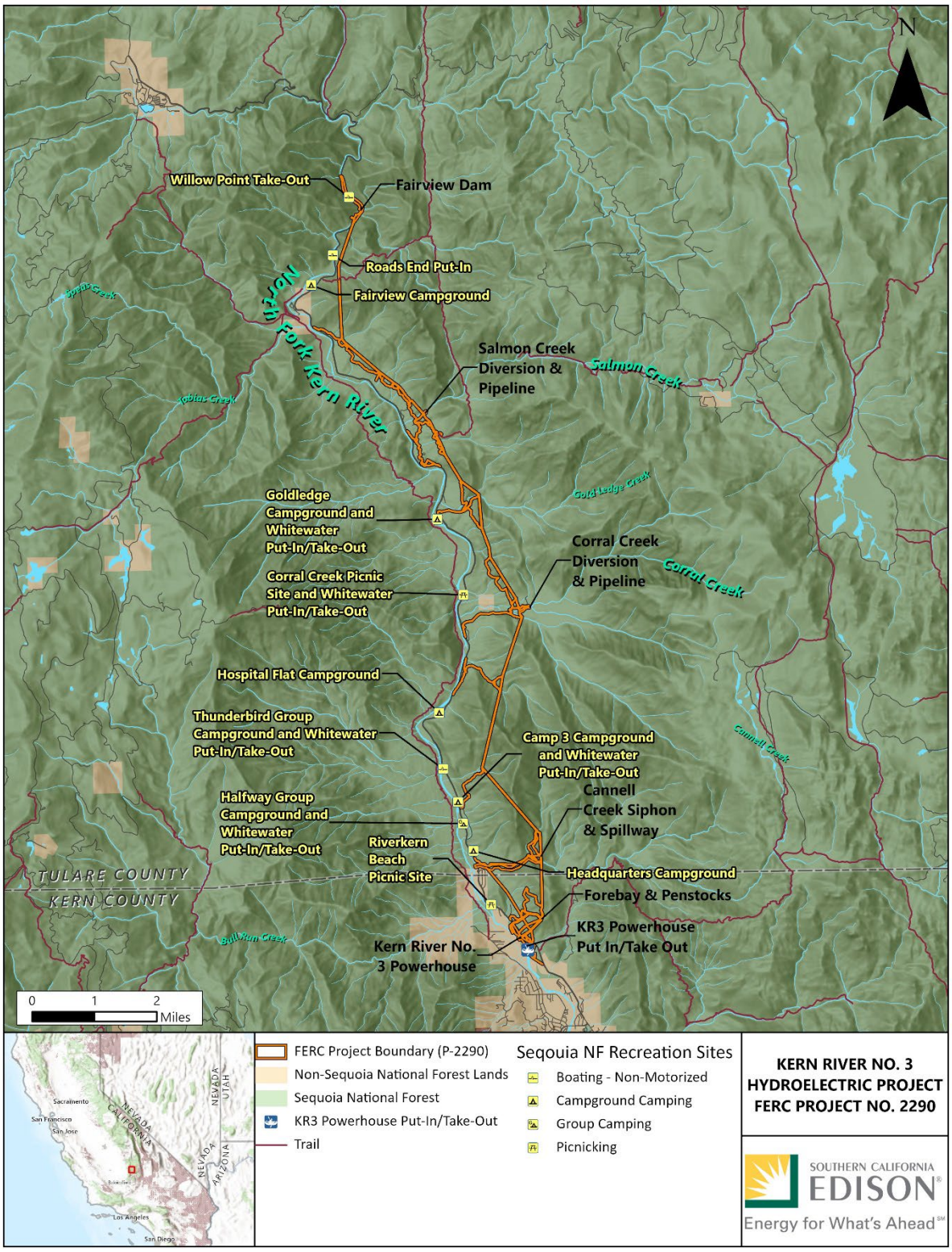

Figure 4-1. Recreation Study Sites within FERC Project Boundary or along the Fairview Dam Bypass Reach.

5.0 EXISTING INFORMATION

The following sources will be utilized and reviewed when developing this Study Plan and when analyzing the survey results:

- *Sequoia National Forest Land and Resource Management Plan* (USFS, 1988)[2]
- *Comprehensive Management Plan—North and South Forks of the Kern Wild and Scenic River* (USFS, n.d.)
- *2021-2025 Statewide Comprehensive Outdoor Recreation Plan* (California State Parks, 2020)
- National Visitor Use Monitoring (NVUM) Reports for SQF[3]
- SQF Concessionaire data

6.0 STUDY APPROACH

To accomplish the goals and objectives of this Study, SCE will develop a visitor intercept survey to collect data on recreation use and purpose within the FERC Project Boundary and along the Fairview Dam Bypass Reach.

6.1. VISITOR INTERCEPT SURVEY

SCE will develop a visitor survey tool (questionnaire) to collect information to better understand who uses the facilities, the timing of recreation use, and user motivation for going to the location. A draft survey will be distributed to the Recreation Technical Working Group for review and comment prior to visitor survey implementation in 2023.

During the 2023 recreation season, visitor intercept surveys will be conducted at the sites identified in Section 4.0 to collect data and information regarding recreation user information. Survey sample design will follow applicable protocols for sample size, weekdays/weekends, start/end times, and sample locations.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as

[2] A revised Land Management Plan is currently under development with the SQF and will supersede the 1988 Plan when finalized.

[3] 2021 NVUM data is currently being collected by the USFS and will be analyzed once available.

applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

SCE is proposing to conduct this study during 1 study year as outlined below.

Date	Activity
Spring 2023	Consult with Recreation Technical Working Group to review intercept survey
Summer 2023	Conduct recreation visitor intercept surveys
August 2023	Provide overall study plan progress and schedule update with ISR
Fall–Winter 2023	Analyze data and prepare Technical Memo
August 2024	Provide Technical Memo with USR

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $60,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

California State Parks. 2020. *2021-2025 Statewide Comprehensive Outdoor Recreation Plan.*

SCE (Southern California Edison). 1997. *Recreation Plan*. FERC Project No. 2290. Rosemead, CA.

USFS (U.S. Forest Service). 1988. *Sequoia National Forest Land and Resource Management Plan.* U.S. Department of Agriculture, Forest Service, Sequoia National Forest. March 1988. Accessed: June 2020. Available online: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5400303.pdf.

_____. No Date. *Comprehensive Management Plan*. North and South Forks of the Kern Wild and Scenic River. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, Sequoia and Inyo National Forests. Accessed: May 2020. Available online: https://www.rivers.gov/documents/plans/kern-plan.pdf.

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REC-3 EXISTING RECREATION FACILITIES CONDITION ASSESSMENT STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

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KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

This study will evaluate the condition of and public accessibility to existing recreation facilities, as specified in Section 4.0, *Study Area and Study Sites*.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

The Federal Energy Regulatory Commission (FERC) established seven criteria (Code of Federal Regulations, Title 18, Section 5.9(b)) as part of the study request process. Criterion five instructs study proponents to explain the nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The North Fork Kern River (NFKR) is an active recreation corridor, with numerous recreation facilities developed by the U.S. Forest Service (USFS) Sequoia National Forest (SQF). Two recreation sites within the FERC Project Boundary include Willow Creek Take-Out, located above the Fairview Dam on USFS lands, and the KR3 Powerhouse Put-in/Take-out, located downstream of the KR3 Powerhouse on Southern California Edison (SCE)-owned lands. The remaining recreation sites along the Fairview Dam Bypass Reach[1] are not located within or adjacent to the FERC Project Boundary.

During the previous relicensing process, SCE developed a *Recreation Plan* (SCE, 1997) in accordance with the FERC license (License Article 421), which outlined specific one-time capital improvements SCE would undertake to improve or enhance three USFS owned recreation sites along the Fairview Dam Bypass Reach: Fairview Campground, Thunderbird Group Campground and whitewater put-in/take out, and Hospital Flat Campground.

3.0 STUDY GOALS AND OBJECTIVES

- Conduct a facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features.

- Assess the condition and potential for universal accessibility, where feasible.

- Identify existing dispersed recreation sites, including documentation of existing conditions.

4.0 STUDY AREA AND STUDY SITES

The study area and specific study sites will be focused on developed campgrounds, day-use areas, trailheads, and river access points within the FERC Project Boundary and

[1] The Fairview Dam Bypass Reach is defined as the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse trailrace.

along the Fairview Dam Bypass Reach. The locations are listed below and shown on Figure 4-1.

- Willow Point whitewater take-out
- Roads End whitewater put-in
- Fairview Campground
- Goldledge Campground and whitewater put-in/take-out
- Corral Creek Picnic Site and whitewater take-out
- Hospital Flat Campground
- Thunderbird Group Campground and whitewater put-in/take-out
- Camp 3 Campground and whitewater put-in/take-out
- Headquarters Campground
- Riverkern Beach Picnic Site
- KR3 Powerhouse whitewater put-in/take out
- Halfway Group Campground and whitewater put-in/take-out
- Rincon Trail trailhead
- Whiskey Flat trailhead
- Packsaddle Trail trailhead

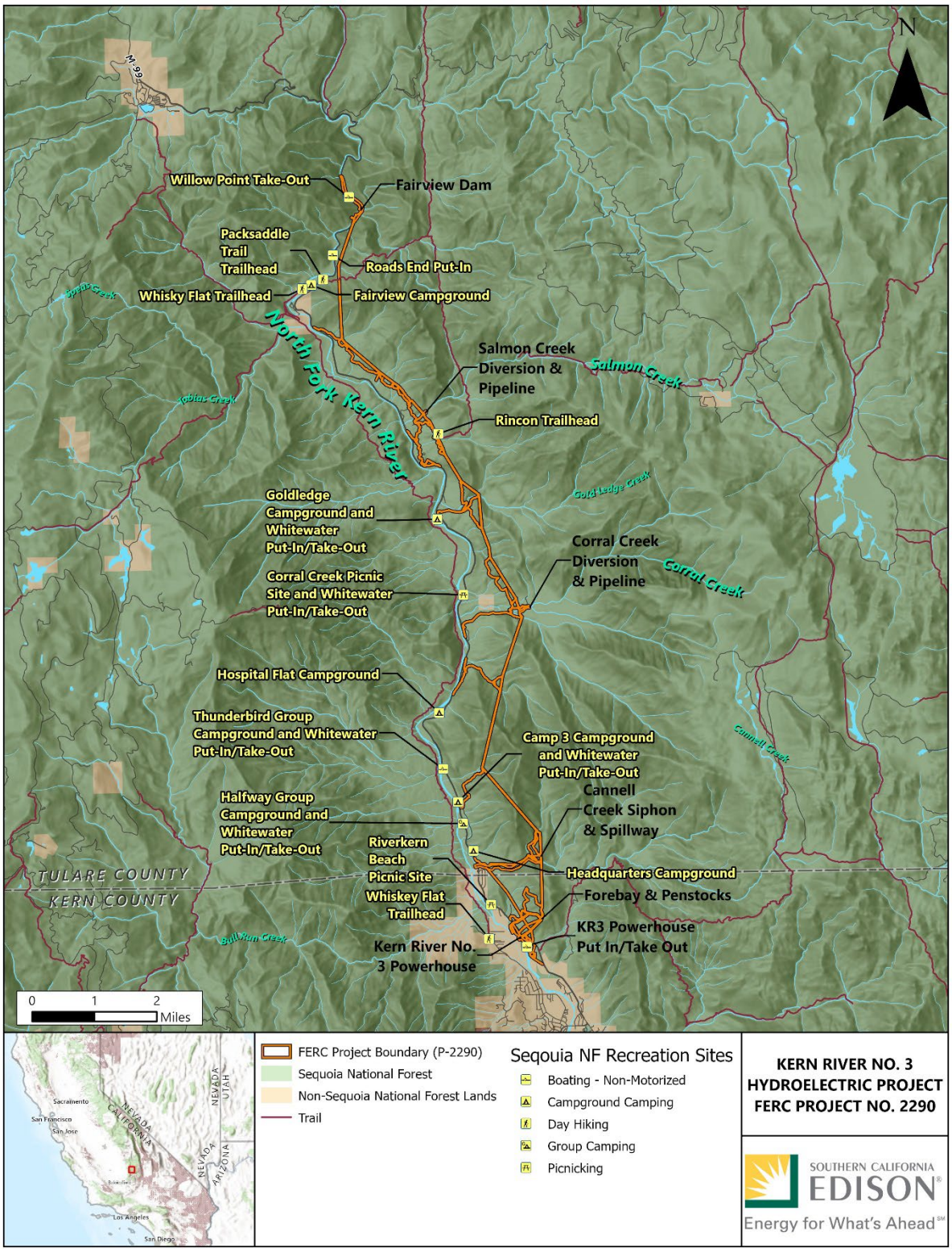

Figure 4-1. Recreation Study Sites within the FERC Project Boundary or along the Fairview Dam Bypass Reach.

5.0 EXISTING INFORMATION

The following sources will be utilized and reviewed when developing this study and when analyzing the results:

- *Sequoia National Forest Land and Resource Management Plan* (USFS, 1988)[2]
- *Comprehensive Management Plan—North and South Forks of the Kern Wild and Scenic River* (USFS, n.d.)
- *2021-2025 Statewide Comprehensive Outdoor Recreation Plan* (California State Parks, 2020)
- National Visitor Use Monitoring (NVUM) Reports for SQF[3]
- SQF Concessionaire data

6.0 STUDY APPROACH

DISPERSED RECREATION SITE ASSESSMENT

A dispersed recreation site assessment will be conducted within the FERC Project Boundary and along the Fairview Dam Bypass Reach. This study will collect information using data sheets designed to provide an inventory of dispersed campsites and parking areas at the following areas (Figure 6-1):

- Chico Flat dispersed campground
- Corral Creek dispersed campground
- Spring Hill dispersed campground
- Old Goldledge dispersed campground
- Ant Canyon dispersed campground
- Chamise Flat dispersed campground
- Calkins Flat dispersed campground

[2] A revised Land Management Plan is currently under development with the SQF and will supersede the 1988 Plan when finalized.

[3] 2021 NVUM data is currently being collected by the USFS and will be analyzed once available.

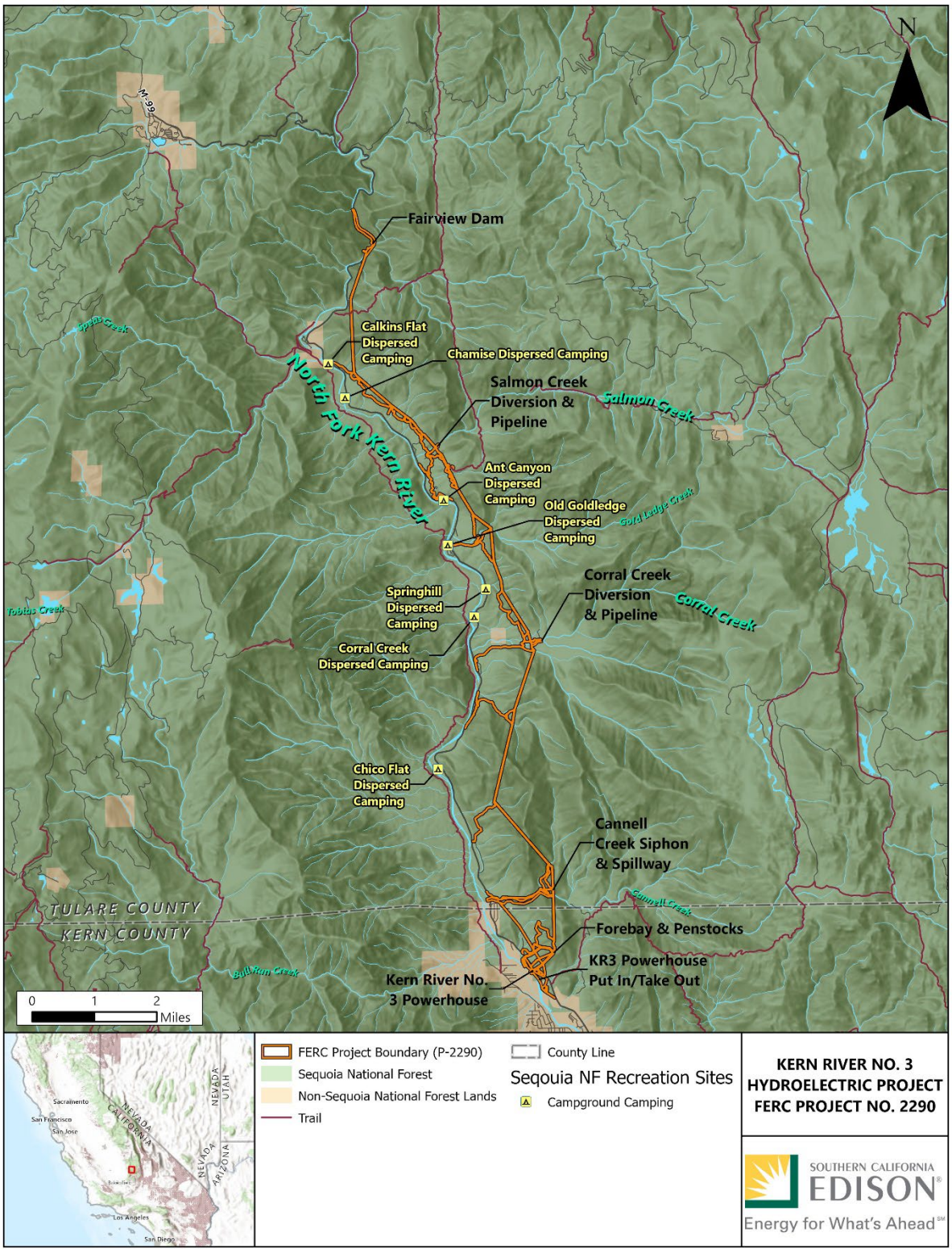

Figure 6-1. Dispersed Recreation Sites within the FERC Project Boundary or along the Fairview Dam Bypass Reach.

Dispersed use will be documented with photographs and integrated into a geographic information system (GIS) database with relevant attributes (e.g., spatial location, number of fire rings, or length of roads or trails) to facilitate future analysis and ongoing assessment. Additional qualitative information will be collected, including potential issues or possible accommodations or future recreation opportunities at the sites.

A report will be prepared documenting the findings of this study. The report will include the collected information, summarized in a narrative to include all observations and a visual representation of the observed dispersed use. The report will discuss findings in relation to the Desired Conditions, Goals, Standards, and Guidelines of *Sequoia National Forest land and Resource Management Plan* (USFS, 1988), as applicable.

FACILITY INVENTORY AND CONDITION ASSESSMENT

A facility inventory and condition assessment will be performed on the recreation sites as indicated in Section 4.0 above. SCE will consult with the SQF to develop appropriate methods and forms for the field assessment. Generally, the study will include an inventory and cursory condition assessment of the following within the study area:

- General assessment of the condition of facilities;
- Universal accessibility of facilities;
- Public safety measures;
- Signage and wayfinding; and
- Site-specific circulation roads, campsite spurs, and parking areas.

The survey will document any items in need of correction, repair, replacement, or similar action, noting facility condition according to Table 6-1. All inventories will be documented with photographs and integrated into a GIS database with relevant attributes to facilitate future analysis and ongoing assessments.

Table 6-1. Facility Condition Rating Table

ID	Category	Description
N	Needs replacement	Facility is non-functional or has broken or missing components
R	Needs repair	Facility has structural damage or is in an obvious state of disrepair
M	Needs maintenance	Facility needs maintenance, such as cleaning or painting
G	Good condition	Facility is functional and well maintained

A report will be prepared documenting the findings of this study. The report will include an inventory and assessment of the selected site facilities (see Section 4.0) and appurtenant features, including applicable maps and illustrations. The report will discuss

findings in relation to the Desired Conditions, Goals, Standards, and Guidelines of the *Sequoia National Forest land and Resource Management Plan* (USFS, 1988), as applicable.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. Standard GIS shapefiles, including metadata, will be provided to relevant agencies upon request. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

SCE is proposing to conduct this study during 1 study year as outlined below.

Date	Activity
Summer 2022	Consult with SQF to review field inventory forms
Fall 2022	Conduct dispersed recreation site assessment and facility inventory and condition assessment
Winter 2022/2023	Analyze data and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

ISR = Initial Study Report; SQF = Sequoia National Forest

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $40,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

California State Parks. 2020. *2021-2025 Statewide Comprehensive Outdoor Recreation Plan.*

SCE (Southern California Edison). 1997. *Recreation Plan*. FERC Project No. 2290. Rosemead, CA.

USFS (U.S. Forest Service). 1988. *Sequoia National Forest Land and Resource Management Plan.* U.S. Department of Agriculture, Forest Service, Sequoia National Forest. March 1988. Accessed: June 2020. Available online: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5400303.pdf.

_____. No Date. *Comprehensive Management Plan*. North and South Forks of the Kern Wild and Scenic River. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, Sequoia and Inyo National Forests. Accessed: May 2020. Available online: https://www.rivers.gov/documents/plans/kern-plan.pdf.

CUL-1 CULTURAL RESOURCE STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

Southern California Edison (SCE) Company, along with a Technical Working Group (TWG) of Stakeholders including the federal land-managing agency, Sequoia National Forest (SQF), Tribes, and other interested parties, identified the need to conduct cultural resource studies including archaeological, built environment, and Tribal resources study. This Study Plan details the study objectives, study area, methods, and schedule for the non-American Indian Traditional Cultural Properties (TCPs), archaeological and built-environment cultural resource studies. Native American TCPs will be considered within the *TRI-1 Tribal Resource Study Plan*.

Several terms used throughout this Study Plan warrant definition at the outset.

- ***Historic Property(ies)***, as defined in the Code of Federal Regulations, Title 36, Section 800.16(l)(1) (Code of Federal Regulations, Title 36, Subpart 800.16(l)(1) [36 CFR 800.16(l)(1)]), are prehistoric or historic archaeological sites, buildings, structures, objects, or districts included in or eligible for inclusion in the National Register of Historic Places (NRHP). Historic properties are identified through a process of evaluation against specific NRHP criteria in 36 CFR § 60.4.
- ***A District*** is a geographic area containing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan and physical development. Examples of districts include (but are not limited to) prehistoric archaeological site complexes, hydroelectric projects, residential areas, commercial zones, mining complexes, transportation networks, rural villages, canal systems, irrigation systems, or large ranches (NPS, 1997).
- ***Cultural Resource(s)***, for the purpose of this document, is used to discuss any prehistoric or historic-period district, site, building, structure, object, landscape, TCP, or TCR, regardless of its National Register eligibility.

There may be any number of cultural resources in the Project Vicinity. Some of these resources may be eligible for the NRHP (i.e., historic properties).

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

The Federal Energy Regulatory Commission (FERC) decision to issue a new license is considered an “undertaking” pursuant to 36 CFR 800.16(y). The National Historic Preservation Act (NHPA) requires federal agencies to take into account the effect of undertakings on historic properties and allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment.

Continued Project Operation and Maintenance and other activities, including public recreation activities, may have an effect on historic properties. The effect may be direct (e.g., result of ground-disturbing activities), indirect (e.g., public access to Project areas), or cumulative (e.g., caused by a Project activity or public access in combination with other

past, present, and reasonably foreseeable future projects). This study focuses on these potential Project effects to historic properties.

For historic properties, appropriate study areas are defined by regulations under 36 CFR 800 as the Area of Potential Effects (APE). The APE for the Project is further defined in Section 4.0, *Extent of Proposed Study Area and Study Sites*, of this Study Plan. The following will be assessed during the archaeological and built environment surveys:

- Are the impacts due to the presence of the Project? Impacts to NRHP-eligible resources or resources with associated Tribal values may include but are not limited to ground disturbance due to driving or excavation; erosion from higher flows; changes to a landscape viewshed; changes to a built environment feature.
- Are the impacts direct, indirect, and/or cumulative?
- If impacts are a result of the presence of the Project, how will they be addressed?

Data collected during this study will inform the following:

- Cultural Resource Technical Reports (CUL-1) for archaeological and built-environment resources.
- Cultural Resource Evaluation Reports for archaeological and built-environment resources.
- Historic Properties Management Plan (HPMP) for archaeological and built-environment resources as well as resources with associated Tribal values.

3.0 STUDY GOALS AND OBJECTIVES

The cultural resource study goals and objectives include the following:

- Meet FERC compliance requirements under in its regulations (18 CFR Part 5) and Section 106 of the NHPA, as amended, by determining if Project-related activities and public access will have an effect on historic properties.
- Identify archaeological resources, built-environment resources, and TCPs within the APE, determine which are historic properties, and develop the HPMP based on those results.
- Ensure that future Project facilities and operations are consistent with the cultural resources management goals of the Sequoia National Forest (SQF).

4.0 STUDY AREA AND STUDY SITES

The cultural resource studies will focus upon the FERC Project Boundary, the proposed APE, and a larger Study Area proposed to be a 0.5-mile radius around the proposed APE. This Study Area is a guide for archival research, development of the historic context and background statements (Figure 5-1).

5.0 EXISTING INFORMATION

5.1. SUMMARY OF RECORD SEARCHES ARCHIVAL RESEARCH

The cultural resources section of the Pre-Application Document (PAD) was developed using information obtained from the SCE archives, the Sierra National Forest, and the California Historical Resources Information System (CHRIS), Southern San Joaquin Valley Information Center (SSJVIC), California State University, Bakersfield.

A records search was conducted utilizing the ArcGIS Online (AGOL) database, which is maintained by SCE and includes a heritage search of all U.S. Forest Service (USFS) Heritage Programs in USFS Region 5 within the SCE service territory as well as records searches from CHRIS.

The USFS Region 5 has developed and maintains corporate databases that include information about heritage resources and heritage resource investigations (Natural Resource Manager [NRM] Heritage Database) and geospatial data (GIS) in accordance with Section 112(2) of the NHPA and Forest Service Manual 2360. Region 5 Forests have shared with SCE all NRM and GIS data that intersect utility facilities (e.g., transmission and distribution facilities, roads) on all USFS lands. Detailed information is presented in Section 5.10.6, *Previous Cultural Resource Studies*, and Section 5.10.7, *Current Cultural Resources Management*, of the PAD and is summarized here.

5.1.1. PREVIOUS CULTURAL RESOURCE STUDIES

Ninety-three previous cultural resource investigations were identified within the proposed Study Area (Table 5-1 below). Of these, 53 have been conducted within the proposed APE. Among them are three studies conducted during the last relicensing. Archaeologists from ENTRIX, Inc. conducted an archaeological survey of the Kern River No. 3 (KR3) Hydroelectric Facilities and associated transmission lines in 1990. Twelve previously unrecorded archaeological sites were identified during the survey: CA-TUL-1477, CA-KER-2512, -2513, -2517, -2518 -2519, -2520, -2521, -2522, -2524, -2527, and -2528. Eight of the sites located within the 1990 FERC Project Boundary (CA-TUL-1477, CA-KER-2512, -2513, -2518, -2519, -2522, -2524, and -2528) were evaluated and determined not eligible for listing in the NRHP. They recommended NRHP evaluation of sites CA-KER-405, -479, -2517, -2520, and -2527. In November of 1990, CA-KER-405, -479, -2517, -2520, 2521, and -2527 were evaluated for their NRHP eligibility. Sites CA-KER-405, -2517, -2020, and 2527 were determined eligible for the NRHP.

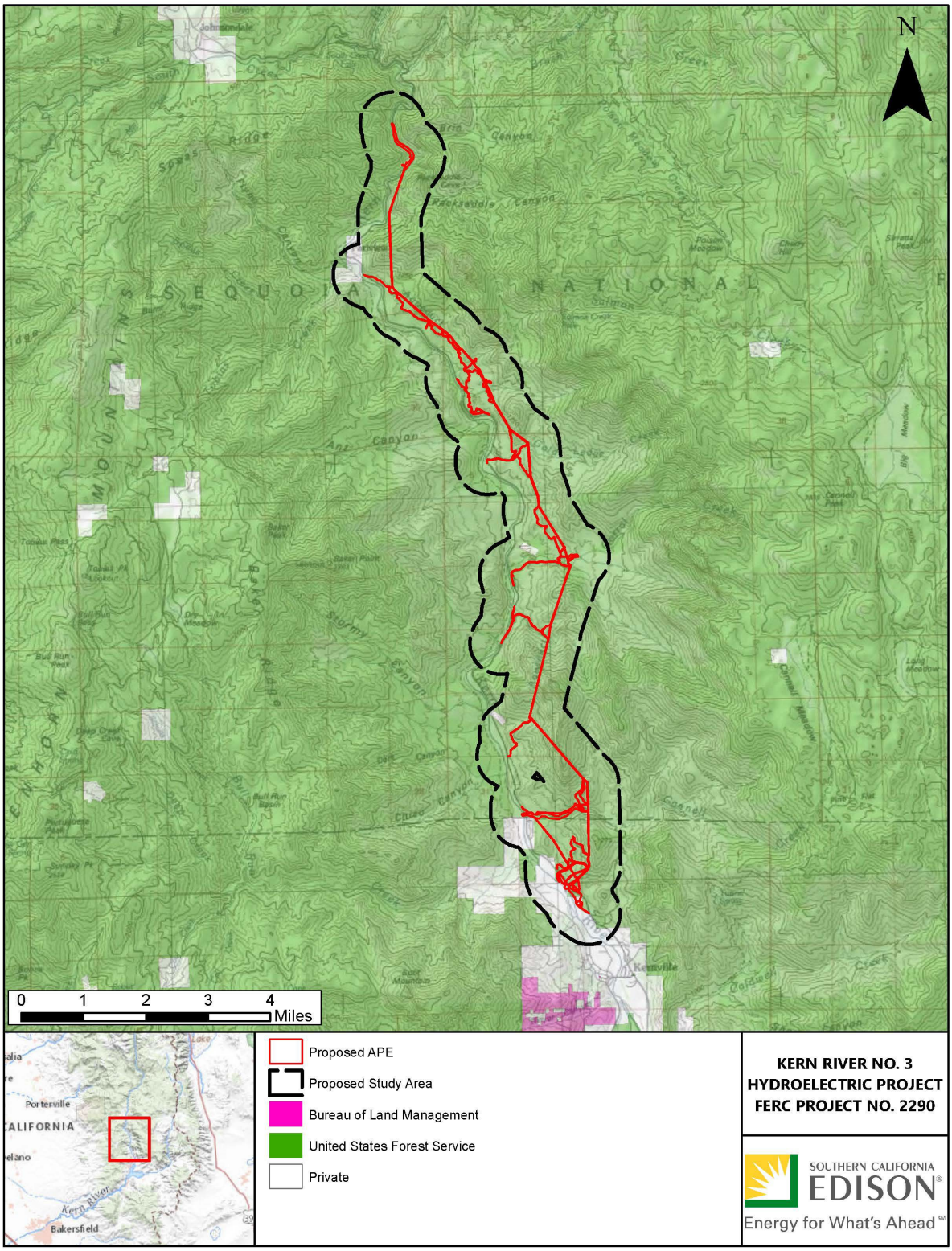

Figure 5-1. Proposed APE and Study Area.

The transmission lines that were in the 1990 APE have since been removed from the FERC Project Boundary and are not a part of the currently proposed APE. As a result, only archaeological site CA-TUL-1477 is located within the currently proposed APE while archaeological site CA-KER-2528 is located within the proposed Study Area outside of the proposed APE. The rest of the archaeological sites discussed in the previous paragraph are now located outside of both the proposed APE and Study Area.

In 1989, Steven Mikesell evaluated and prepared an NRHP nomination for the KR3 Hydroelectric Project District (KR3HD) as part of the relicensing effort. KR3HD was determined eligible for inclusion on the NRHP. Several years later, in 2011 Natalie Brodie and Roderic McLean conducted a survey of the KR3 Hydroelectric System access roads (Brodie and McLean, 2011). They identified 29 archaeological sites and evaluated them for NRHP eligibility, as well as expanded the KR3HD to include archaeological sites associated with the construction of KR3. The KR3HD has been assigned P-54-004636 / P-15-013772 (CA-TUL-2887H / CA-KER-7729H [FS 05-13-56-00022]). Sites identified during this effort included trails, roads, waste rockpiles, satellite work areas, and construction camps associated with the construction of KR3.

The KR3 Hydroelectric System access roads were determined not individually eligible for the NRHP; however, they were determined eligible as contributing resources to the KR3HD. Archaeological sites characterized as waste rock piles, sparse historic debris scatters, and satellite work camps—were all determined not eligible for the NRHP on an individual basis or as contributing elements of the KR3HD. Sites characterized as roads, trails and construction camps for the Project—were determined eligible for the NRHP on and individual basis and as contributing elements to the KR3HD (Brodie and McLean, 2012:41-82). In 2013, Matthew Weintraub prepared Historic American Engineering Records for the KR3HD as well as the Sandbox, and Fairview Dam (Weintraub, 2013a, 2013b, 2013c). Previous studies in the proposed Study Area are depicted on Figures 1a through 1e in Appendix F, *Cultural Resources* (Confidential), of the PAD.

Table 5-1. Previous Cultural Resource Studies Located Within the Proposed Study Area and APE

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
KE-01490	--	R197405135621	1974	Schiffman	*Archaeological Investigation of a Tubatulabal Indian Hamlet Site, Sequoia National Forest, Kern County, California*	No
KE-02018	--	--	1977	Panlaqui and Henry	*Environmental Impact Statement for Archaeological Values prepared for the Indian Wells Valley County Water District's Community Emergency Drought Program Application*	Yes
TU-00236	--	--	1979	Cantwell	*Archaeological and Historical Survey Report: Salmon Creek Bridge #M99-11.95, Tulare County*	Yes
N/A	--	R1980051356007	1980a	Unknown	*Fairview Campground Rehabilitation Project*	No
N/A	--	R1980051356009	1980b	Unknown	*Kern Canyon Trail*	No
N/A	--	R1981051356003	1981	Unknown	*Cultural Resource Investigations North Fork Kern River*	Yes
N/A	--	R1982051356002	1982a	Unknown	*Chamise East Prescribed Burn Project*	Yes
N/A	--	R1982051356006	1982b	Unknown	*Springhill Prescribed Burn*	No
N/A	--	R1982051356007	1982c	Unknown	*Nicoll's Rockhouse Basin Mineral Exploration*	No
TU-00512	--	--	1984a	Uli and Schiffman	*Archaeological Investigation of the Twenty Acre Zone Change PZ 83-30, 4.5 Miles North of Kern/Tulare County Line, Tulare County, California*	No
N/A	--	R1984051356008	1984b	Unknown	*Camp Owens Exchange*	Yes
N/A	--	R1984051356011	1984c	Unknown	*Cal State Fish & Game Fish Hatchery Settling Pond*	No

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
TU-00457	--	--	1986	Schiffman	*Archaeological Evaluation of a 20 Acre Residential Development: Field Testing, Tulare County, California*	No
N/A	--	R1987051356003	1987a	Unknown	*ERFO Trail Relocation and Reconstruction Project*	No
N/A	--	R1987051356007	1987b	Unknown	*Fairview/Flynn Wildlife Burn*	No
N/A	--	R1988051353001	1988	Unknown	*Contel Project*	Yes
N/A	1160340	--	1989	Mikesell	*National Register of Historic Places Nomination: Kern River No. 3 Relicensing Project*	Yes
TU-00101; KE-01622	1160330	--	1989	Sutton and Pruett	*An Archaeological Inventory and Assessment of Southern California Edison Company's Kern River No. 3 Hydroelectric Project, Kern and Tulare Counties, California (FERC Project No. 2290)*	Yes
N/A	1161226	--	1990a	ENTRIX	*Archaeological Inventory and Assessment Kern River No. 3 Relicensing Project*	Yes
N/A	1161227	--	1990b	ENTRIX	*Ethnographic Background and Native American Consultation Kern River No. 3 Relicensing Project*	Yes
KE-01921	1160475	--	1990	Sutton et al.	*An Assessment of Seven Archaeological Sites on Southern California Edison Company Kern River No. 3 Hydroelectric Project, Kern and Tulare Counties, California (FERC Project No. 2290)*	Yes
N/A	--	R1990051356008	1990	Unknown	*Riverkern Fence Project*	Yes
N/A	1160477	--	1991	Taylor	*Cultural Resources Management Plan for Southern California Edison Company's Kern River No. 3 Hydroelectric System Kern*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
					and Tulare Counties, California FERC Project No. 2290	
N/A	--	R1991051356003	1991	Unknown	*Fairview Campground Handicap River Access*	No
KE-00990	--	--	1992a	Schiffman	*Archaeological Investigation of 55 Acre Parcel Near Kernville Section 9, T. 25S, R. 33E., Kern County, California*	No
TU-00472	--	--	1992b	Schiffman	*Archaeological Investigation of 145.6 Acre Parcel by Fairview, Sections 14 and 23, T.23S., R.32E., Tulare County, California*	No
N/A	--	R1992051356008	1992	Unknown	*Domeland Trail*	Yes
TU-00847	--	R1993051356013	1993	Lomax and Manureflectorel	*Negative Results Archaeological Reconnaissance Report for the Lower Thunderbird Blockage Project*	No
TU-00854	--	R1993051356014	1994	Lomax	*Archaeological Reconnaissance Report for the Manifest Box Installation at Ant Canyon*	Yes
TU-00852	--	R1994051356008	1994	Lomax and Manuel	*Negative Results Archaeological Reconnaissance Report for the Headquarters Campground Restroom Installation Project*	No
N/A	--	R1994051354023	1994	Unknown	*Archaeological Evaluation of Headquarters Campground*	No
N/A	--	R1995051356004	1995	Unknown	*SCE/Passive Reflector Installation*	No
KE-00868 / 1140962	--	--	1996	Getchell and Atwood	*Cultural Resources Inventory and Impact Assessment of the Proposed Mountain & River Adventures Campground, Located Between the Communities of Kernville and Riverkern, Kern County, California*	No
N/A	--	R1996051356002	1996	Unknown	*Kern River Horse Stables*	No

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
N/A	--	R1998051356004	1998a	Unknown	*Riverkern Fuel Reduction Project*	Yes
N/A	--	R1998051356010	1998b	Unknown	*SCE Forebay Road Realignment Project*	Yes
TU-00977	--	--	1999	Hudlow	*A Phase I Cultural Resource Survey for the Kern River Golden Trout Resort, Tulare County, California*	No
KE-02469; TU-01037	1161234	--	2000	Schmidt	*Kernville Deteriorated Pole Replacement Project, Kern and Tulare Counties*	No
TU-01137; KE-02724	1161663	--	2002	Schmidt	*76 Work Locations for the Kernville 76 Deteriorated Pole Replacement Project, Kern and Tulare Counties*	Yes
TU-01282	1161003	--	2006	Jordan and Wise	*Archaeological Survey Report for the Southern California Edison Company Replacement of Two Deteriorated Poles on the Intake 16kV Circuit, Sequoia National Forest, Tulare County, California*	No
TU-01433	1162217	R2010051354001	2007	Pollock	*Archaeological Assessment Report for the Kern River 3 Hydroelectric Project Intake Cableway Improvements, Sequoia National Forest, Tulare County, California*	Yes
KE-03649	1161422	--	2007	Switalksi	*Archaeological Survey Report for the Southern California Edison Company Installation of Two Power Poles on the Vestal-Glennville-Greenhorn-Kern River #3 66 kV Transmission Line (DWO 4229-0084, JO 0287), Kernville, Kern County, California*	No
N/A	--	R2007051354006	2007	Unknown	*GHN-MJZ Jeep Commercial*	No
KE-03968	--	R2008051356021	2008	Dodd	*Historic Resource Evaluation Report for Camp Erwin Owen Land Exchange between Sequoia National Forest and Kern County, Kernville, Kern County, California*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
TU-01510; KE-03828	1163376	R2008051354037	2008	Orfila	*Archaeological Survey for the Southern California Edison Company Replacement of Six Deteriorated Power Poles (Sequoia National Forest) on the Bonanza 12 kV, Intake 12kV, and Mustang 12kV, Kern County, California (DWO 6053-4800 7-4801/CWA 9 SQF)*	Yes
KE-03650	--	--	2008a	Cal Heritage	*Archaeological Inventory of the Kern River Fish Hatchery on the Kern River Ranger District, Sequoia National Forest, Kern County, California*	Yes
KE-03667	--	--	2008b	Cal Heritage	*Archaeological Inventory of Camp Erwin Owen Kern River Ranger District, Sequoia National Forest, Kern County, California*	No
KE-03743	1163120	--	2008a	Parr	*Cultural Resource Assessment for the Installation of a Fault Return Conductor and Replacement of Two Deteriorated H-frame Structures on the Southern California Edison Company Borel - Isabella - KR3 - Lakegen - Weldon 66 kV Circuit Near Lake Isabella, Kern County, California*	No
TU-01355	1161750	R2008051356019	2008b	Parr	*Cultural Resources Assessment for the Replacement of Damaged Power Pole #4417077E on the Southern California Edison Intake 16 kV Circuit, Sequoia National Forest, Tulare County, California*	Yes
TU-01521; KE-04019	1161776	R2008051354011	2008	Pollock	*Archaeological Assessment Report for the Kern River 3 Hydroelectric Project 4E Conditions, Sequoia National Forest, Tulare and Kern Counties, California*	Yes
N/A	--	R2008051354028	2008a	Unknown	*Rockhouse Basin Road (23S54)*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
N/A	--	R2008051356023	2008b	Unknown	*Upper Kern Birdhouse Fire Restrictions Signs*	Yes
N/A	--	R2008051354027	2008c	Unknown	*Gold Ledge Road Maintenance*	No
N/A	--	R2008051356010	2008d	Unknown	*Camp Owen Roadside Weed Abatement*	No
KE-03879	1162283	R2010051354030	2009	Howard et al.	*Cultural Resources Assessment of the Kern River 3 Fiber Optic Line, Kernville and Wofford Heights, Kern County, California*	Yes
TU-01342	--	--	2009	Parr	*Cultural Resource Assessment for the Replacement of Deteriorated Power Pole #270010E on the Southern California Edison Company Intake 16 kV Circuit, Sequoia National Forest, Tulare County, California*	Yes
KE-03891; TU-01513	1162041	----------	2009	Schmidt	*WO 4229-0302/SAP 800234185; 2009 Deteriorated Pole Replacement Project. Vestal-Kern River 3 66 kV, and Vestal-Glennville-Greenhorn-Kern River 3 66 kV Transmission Lines, Tulare and Kern Counties, California*	No
N/A	--	R2009051354001	2009a	Unknown	*Campground Prospectus*	Yes
N/A	--	R2009051354002	2009b	Unknown	*Upper Kern River Toilet Installation*	No
N/A	--	R2009051354027	2009c	Unknown	*Kern River Intake 3 Radio Repeater*	No
N/A	--	R2009051354038	2009d	Unknown	*Riverkern Burn Piles*	Yes
N/A	--	R2009051354043	2009e	Unknown	*Burma Road Burn Piles*	No
N/A	--	R2009051354051	2009f	Unknown	*Upper River Burn Piles*	Yes
N/A	--	R2009051354060	2009g	Unknown	*Fairview CG Emergency Waterline Repair*	No
N/A	--	R2009051354104	2009h	Unknown	*Roads End Brushing and Thinning Project*	No
N/A	--	R2009051354105	2009i	Unknown	*Fairview Helispot Borrow Area*	No

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
TU-01519; KE-04017	1162050	R2010051354024	2010	Henrikson et al.	*Archaeological Inventory of SCE Kern River No. 3 Hydroelectric System, Road Maintenance and Culvert Installation, Kern and Tulare Counties, California*	Yes
KE-04046	1162833	R2011051354028	2010a	Parr	*Cultural Resource Assessment for the Replacement of Twenty-eight Deteriorated Power Poles on the Southern California Edison Company Borel-Isabella-Kern River 3- Lakegen-Weldon 66 kV Circuit and Borel-Havilah-Loraine-Monolith-Walker Basin 66 kV Circuit, Sequoia National Forest, Kern County, California*	Yes
KE-04049	1163056	--	2010b	Parr	*Cultural Resource Assessment for the Replacement of Eighteen Deteriorated Power Poles on the Southern California Edison Company Borel-Isabella-Kern River 3-Lakegen-Weldon 66kV Circuit and Borel-Havilah-Loraine-Monolith-Walker Basin 66 kV Circuit, Kern County, California*	No
KE-04831	1162834	--	2010c	Parr	*Cultural Resource Assessment for the Replacement of Forty-two Deteriorated Power Poles on the Southern California Edison Company Borel-Isabella-Kern River 3-Lakegen-Weldon 66kV Circuit and Borel-Havilah-Loraine-Monolith-Walker Basin 66kV Circuit, Sequoia National Forest, Kern County, California*	Yes
TU-01450	1162628	--	2010d	Parr	*Cultural Resource Assessment for an RAR Switch and Pole Replacement on the Southern California Edison Company Intake 16 kV Circuit, Sequoia National Forest, Tulare County, California*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
TU-01405; KE-03753	1162943	--	2010	Schmidt	*Negative Archaeological Monitoring Report: Southern California Edison Bull Fire Monitoring Program Intake and Forebay 16 kV Emergency Pole Replacement Project, Sequoia National Forest, Kern County*	Yes
TU-01798; KE-05019	1163131	--	2011	Brodie and McLean	*Cultural Resources Survey Results: Kern River 3 Access Roads Improvements Project, I.O. # 316520, Southern California Edison, Kern and Tulare Counties, California*	Yes
TU-01529; KE-04212	--	--	2011a	Parr	*Archaeological Assessment for a Southern California Edison Company Grid Reliability Maintenance Project: Intake 16 kV Cutover on the Sequoia National Forest, Kern River Ranger District, Tulare and Kern Counties, California*	Yes
KE-04213; TU-01530	--	--	2011b	Parr	*Archaeological Assessment for a Southern California Edison Company Grid Reliability Maintenance Project: Intake 16 kV Cutover on Private Property in Kern and Tulare Counties, California*	No
TU-01581	--	--	2011c	Parr	*Cultural Resource Assessment for the Replacement of Deteriorated Power Pole #269900E on the Southern California Edison Company Intake 16 kV Circuit, Sequoia National Forest, Tulare County, California*	Yes
TU-01797; KE-05018	1163131	R2012051354015	2012	Brodie and McLean	*Kern River 3 Hydroelectric Historic District Update: Kern River Number 3 Hydroelectric System Kern River 3 Access Roads Improvements Project, I.O. Number 316520, Southern California Edison,*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
					Sequoia National Forest, Kern and Tulare Counties, California	
KE-04187	1162966	--	2012	Orfila	*Archaeological Survey of Two Poles and Access Routes on the Bonanza 12 kV Circuit Near Kernville, Kern County, California (Routine Preventative Maintenance IO# 320708/TD561443; RSOC CWA 28)*	No
KE-04095	--	--	2012a	Parr	*Archaeological Survey Report for a Southern California Edison Company Grid Reliability and Maintenance (GRM) Project on the Bonanza 12 kV Distribution Circuit (TD 572195), Camp Irwin Owen, Kernville, Kern County, California*	No
TU-01524	1163026	--	2012b	Parr	*Archaeological Monitoring and Supplemental Survey Report for the Southern California Edison Company Intake 16 kV Cutover Project on the Sequoia National Forest, Kern River Ranger District, Tulare County, California*	Yes
--	1163619	--	2013	Millington and Bean	*Cultural Resources Report for the Pre-Construction Survey of Seven Deteriorated Poles on the Erskine and Intake 12kV Circuits (IO 301934), Sequoia National Forest, Kern County, California*	Yes
--	--	--	2013a	Weintraub	*Kern River 3 Hydroelectric System Historic American Engineering Record Number CA-2309*	Yes
--	--	--	2013b	Weintraub	*Kern River 3 Hydroelectric System, Sandbox, Historic American Engineering Record Number CA-2309A*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
--	--	--	2013c	Weintraub	*Kern River 3 Hydroelectric System, Fairview Dam Historic American Engineering Record Number CA-(number not on form)*	Yes
TU-01710	1163999	--	2014	Brodie	*Archaeological Survey Report for the Southern California Edison Company Replacement of Six Deteriorated Power Poles on the Intake 12kV Circuit, TD716766, Sequoia National Forest, Tulare County, California*	No
N/A	1163769	--	2015	Carvajal and Denniston	*Letter Report for Cultural Resources Monitoring for Southern California Edison Emergency Tree Cutting, Sequoia National Forest, Kern and Tulare Counties, California*	Yes
KE-04742	1163687	--	2015	Elzinga and Millington	*Cultural Resources Report for Pre-Construction Survey of Six Deteriorated Poles on the Intake 12 kV, Bonanza 12 kV, and Borel-Isabella-Kern River 3-Lakegen-Weldon 66 kV Circuits, Sequoia National Forest, Kern County, California*	Yes
--	1163707	--	2015	Heidelberg and Duff	*Archaeological Survey Report for Southern California Edison's Replacement of Sixty-seven Deteriorated Power Pole Structures on the Intake 12kV, Borel-Isabella-Kern River 3-Lakegen-Weldon 66kV, Kern River 3-Kernville 66 kV, Erskine 12kV, and Other Circuits (TD750600, TD788908, TD805660T, TD805689, TD841048, TD853032, TD853504, TD853510, TD862839, TD862859, TD862870, TD868537, TD899622, TD945755, TD993667) in the Kern River District of*	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
					Sequoia National Forest in Kern County, California	
--	1164177	--	2016	Belcourt	*Letter Report for Cultural Resources Survey and Monitoring for Southern California Edison Deteriorated Pole Replacement (TD1064452/Pole1235549E), on Lands Administered by the Sequoia National Forest, north of Kernville, Tulare County, California*	Yes
--	1164273	--	2016a	Hall and Brodie	*Archaeological Survey Report for the Southern California Edison Company Replacement of Sixty-one Deteriorated Poles on the Bonanza 12 kV, Erskine 12 kV, Intake 16 kV, Isabella 12 kV, Johnsondale 4kV, Mebane 2.4 kV, Mustang 12 kV, Pascoe 2.4kV, Tee Vee 12kV, and Tungsten 12kV Circuits, Sequoia National Forest, Kern and Tulare Counties, California*	Yes
--	1164280	--	2016b	Hall and Brodie	*Archaeological Survey Report for the Southern California Edison Company Replacement of Twelve Deteriorated Poles on the Erskine 12 kV, Intake 16 kV, Tee Vee 12 kV, and Unnamed Circuits, TD1114808, TD1114817, TD1130300, TD1140759, TD1134709, and TD1085929, Sequoia National Forest, Kern and Tulare Counties, California*	Yes
TU-01835; KE-05068	1164450	--	2017	Millington et al.	Cultural Resources Survey and Monitoring Report for Southern California Edison's Replacement of Deteriorated Poles in Support of the Region 5 Special Use Permit R50003, Sequoia National Forest, Tulare and Kern Counties, California	Yes

IC Number	SCE Document ID	USFS Number	Report Year	Author(s)	Report Title	In Proposed APE?
--	1164587	--	2018	Gilbert and Wilson	*Cultural Resources Survey and Monitoring Report for Southern California Edison Company's Emergency Special Use Permit (R50003) 2016-2017 Hazard Tree Removals in Sequoia National Forest, Fresno, Tulare, and Kern Counties, California*	Yes

APE = Area of Potential Effects; FERC = Federal Energy Regulatory Commission; IC = Information Center; kV = kilovolt; N/A = data not available; SCE = Southern California Edison; USFS = U.S. Forest Service

5.2. PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES

Archival research conducted to date identified 30 pre-contact, 18 multi-component (pre-contact and historic-period), and 31 historic-period previously recorded archaeological sites within the proposed Study Area. Of these, 4 pre-contact, 7 multi-component, and 24 historic-period archaeological sites are located within the proposed APE. The diverse types of sites and their NRHP eligibility are listed in Table 5-2. Pre-contact sites primarily include bedrock milling stations (BRMs), lithic scatters, ground stone, and midden deposits. Petroglyphs and pictographs have also been recorded. Multi-component sites include BRMs, lithic scatters, ground stone, and historic debris (e.g., can scatters, domestic debris scatters). Historic-period sites include historic debris and the remains of buildings or structures. Some of these historic-period sites may be related to Native American reoccupation on their older sites. Twenty-six of the archaeological sites within the proposed APE have been evaluated for their eligibility for listing in the NRHP. Six of the evaluated sites have been determined to be individually eligible and contributing elements of the KR3HD. Six of the evaluated sites have been determined not to be individually eligible, but are eligible as contributing elements of to the KR3HD. Fourteen of the sites have been determined not eligible on an individual basis or as a contributing element to the KR3HD. The remaining nine sites have not been evaluated for their NRHP eligibility. The locations of these sites are depicted on the Cultural Studies Map Series, which is filed as Privileged Information in Volume III of the PAD.

5.3. PREVIOUSLY RECORDED BUILT-ENVIRONMENT RESOURCES

Three built-environment resources have been recorded within the proposed Study Area (Table 5-3). Of these, two are located within the proposed APE. One is the KR3HD, which has been determined eligible for the NRHP. The other is Camp Irwin Owen, a juvenile probation camp that has been determined not eligible for the NRHP on an individual basis, or as a contributor to the KR3HD. The third built-environment resource consists of a culvert and check dam located within the proposed Study Area but outside of the APE. It has not been evaluated for the NRHP.

Table 5-2. Previously Recorded Archaeological Sites Located Within the Proposed Study Area and APE

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-15-002398	CA-KER-2398	05-13-56-00021	N/A	P	1 BRM, Lithic Scatter, Midden, Groundstone, Pottery, Trail	Unevaluated		X	USFS
P-15-002517	CA-KER-2517	05-13-56-00823	N/A	P	5 BRMs, Midden, Groundstone	Eligible		X	USFS
P-15-012947	N/A	05-13-56-00729	N/A	P	3 BRMs, Lithic Scatter, Groundstone, Pictograph	Unevaluated		X	USFS / Private
P-15-013773	N/A	05-13-54-00730	N/A	H	Abandoned Loading Dock	Not Individually Eligible / non-CE KR3HD	X		USFS
P-15-014890	CA-KER-8315	N/A	N/A	P	1 BRM	Unevaluated		X	Private
P-15-015656	CA-KER-8639	05-13-54-00861	N/A	H	Remains of Tramway and Trail, Waste Rock Piles	Not Individually Eligible / CE KR3HD	X		USFS
P-15-018562	CA-KER-10157	--	N/A	P	3 BRMs, Lithic Scatter,	Unevaluated	X		USFS
P-54-000048	CA-TUL-48	--	N/A	P	1 BRM, Lithic Scatter, Groundstone	Unevaluated		X	USFS
P-54-000861	CA-TUL-861	05-13-56-00242	Intake Cabin, CWA002-S-1207	H	Stone Wall, Foundation, Historic Debris	Unevaluated	X		USFS
P-54-000862	CA-TUL-862	05-13-56-00240	N/A	P	1 BRM, 3 Milling Stations, Lithic Scatter, Groundstone	Unevaluated		X	Private

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-54-000863	CA-TUL-863	05-13-56-00260	N/A	M	1 BRM, 8 Milling Stations, Lithic Scatter, Groundstone, Historic Debris	Unevaluated		X	USFS
P-54-000864	CA-TUL-864	05-13-56-00235	N/A	P	Lithic Scatter	Unevaluated		X	USFS
P-54-000865	CA-TUL-865	05-13-56-00236	N/A	H	Concrete Foundation, Historic Debris, Waste Rock Pile	Individually Eligible / CE KR3HD	X		USFS
P-54-000866	CA-TUL-866	05-13-56-00237	N/A	H	Mine Adit	Unevaluated		X	USFS
P-54-000867	CA-TUL-867	05-13-56-00238	N/A	P	1 BRM	Unevaluated		X	USFS
P-54-000868	CA-TUL-868	05-13-56-00239	N/A	H	2 Concrete Foundations, Collapsed Wooden Structure, Historic Debris	Unevaluated		X	USFS
P-54-000869	CA-TUL-869	05-13-56-00233	N/A	P	Lithic Scatter	Unevaluated		X	USFS
P-54-000870	CA-TUL-870	05-13-56-00007	N/A	P	9 BRMs, Lithic Scatter, Midden, Pictograph	Unevaluated		X	USFS
P-54-000871	CA-TUL-871	05-13-56-00229	N/A	P	6 BRMs, Lithic Scatter; Midden, Possible Pictograph	Unevaluated		X	USFS
P-54-000872	CA-TUL-872	05-13-56-00230	N/A	P	Lithic Scatter, Midden	Unevaluated		X	USFS
P-54-000873	CA-TUL-873	05-13-56-00091	N/A	P	2 BRMs, Midden	Unevaluated		X	USFS
P-54-000874	CA-TUL-874	05-13-56-00232	N/A	P	8 BRMs, Midden	Unevaluated		X	USFS
P-54-000875	CA-TUL-875 (TUL-876, -2123 -2127)	05-13-56-00525, 05-13-56-00227, 05-13-56-00228	N/A	M	Multiple Concrete Foundations	Individually Eligible / CE KR3HD	X		USFS

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-54-001024	CA-TUL-1024	--	N/A	P	3 BRMs, 2 Possible Milling Stations, Lithic Scatter	Unevaluated		X	USFS
P-54-001477	CA-TUL-1477	05-13-54-00836	N/A	P	3 BRMs, Lithic Scatter	Unevaluated	X		USFS
P-54-002215	CA-TUL-2129	05-13-56-00706	N/A	M	Lithic Scatter Groundstone, Glass Fragments	Unevaluated		X	USFS
P-54-003396	CA-TUL-2301	--	N/A	H	Mine Shaft, Tailings, 2 Small Pits	Unevaluated		X	USFS
P-54-003922	CA-TUL-2406	05-13-54-00585	N/A	P	12 BRMs, Midden, Lithic Scatter	Unevaluated		X	USFS
P-54-004635	CA-TUL-2888	05-13-54-00717	N/A	H	Historic Debris	Not Individually Eligible / non-CE KR3HD	X		USFS
P-54-004636	CA-TUL-2889	05-13-54-00708	N/A	H	19 Tent Pads, 3 Pits / Depressions, Historic Debris	Not Individually Evaluated / CE KR3HD	X		USFS
P-54-004637	CA-TUL-2890	05-13-54-00709, 05-13-54-00855	N/A	M	1 BRM, Pictograph, Tent Pads, Rock Walls, Historic Debris	Individually Eligible (P & H) / CE KR3HD (H only)	X		USFS
P-54-004641	CA-TUL-2894	05-13-54-00713	N/A	M	Lithic Scatter, Historic Debris	Not Individually Eligible / non-CE KR3HD	X		USFS
P-54-004642	CA-TUL-2895	05-13-54-00714	N/A	H	Historic Debris	Not Individually Eligible / non-CE KR3HD	X		USFS

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-54-004643	CA-TUL-2896	05-13-54-00715	N/A	H	Rock Wall, Foundations, Historic Debris, Waste Rock Pile	Not Individually Eligible / CE KR3HD	X		USFS
P-54-004644	CA-TUL-2897	05-13-54-00716	N/A	H	Rock and Dirt Platforms, 4 Granite Quarries, Historic Debris	Eligible / CE KR3HD	X		USFS
P-54-004645	CA-TUL-2898	05-13-54-00718	N/A	H	Waste Rock Piles, Historic Debris, Concrete Foundation	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004650	N/A	05-13-54-00723	N/A	H	Waste Rock Pile	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004651	N/A	05-13-54-00724	N/A	H	Remains of wooden bridge	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004652	N/A	05-13-54-00725	N/A	H	Waste Rock Pile, Steel Bucket	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004654	CA-TUL-2902	05-13-54-00727	N/A	H	Tent Pads, Foundations, Historic Debris	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004655	N/A	05-13-54-00728	N/A	H	Tent Pad	Not individually eligible / non-CE KR3HD	X		USFS
P-54-004656	N/A	05-13-54-00726	N/A	H	Granite Boulders with Drill Holes	Not individually eligible / non-CE KR3HD	X		USFS

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-54-004658	CA-TUL-2996	05-13-54-00857	N/A	H	Remains of Crusher Plant	Not individually eligible / CE KR3HD	X		USFS
P-54-004793	CA-TUL-2984	--	N/A	H	3 Foundations, Stone Fireplaces, Stone-Lined Paths	Unknown		X	USFS
P-54-004816	CA-TUL-2990	05-13-54-00866	N/A	H	2 Concrete Generator Pads, Trail, and Historic Debris	Not individually eligible / CE KR3HD	X		USFS
P-54-004817	CA-TUL-2991	05-13-54-00867	N/A	H	Historic Debris	Not Individually Eligible / non-CE KR3HD		X	USFS
P-54-004818	CA-TUL-2992	05-13-54-00860	N/A	H	Historic Debris, Waste Rock Pile	Not Individually Eligible / CE KR3HD	X		USFS
P-54-004819	CA-TUL-2993 (TUL-2899, 2900, 2901)	--	N/A	M	Rock Shelter, Pictograph Tent Pads, Rock Features, Waste Rock Piles, Historic Debris	Individually Eligible (both P and H) / CE KR3HD (historic portion only)	X		USFS
P-54-004820	CA-TUL-2994	05-13-54-00865	N/A	H	Generator Footings, Waste Rock Piles, Bridge Remnants, Historic Debris	Not Individually eligible / non-CE KR3HD	X		USFS
P-54-004821	CA-TUL-2995	05-13-54-00856, 05-13-54-00456	N/A	H	Concrete Generator Pads, Historic Debris	Not Individually Eligible / non-CE KR3HD	X		USFS
P-54-004822	CA-TUL-2997	05-13-54-00858	N/A	H	Generator Pad, Waste Rock Pile	Not Individually Eligible / non-CE KR3HD	X		USFS

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
P-54-004823	CA-TUL-2998 (TUL- 2891, 2892, 2893, P-54-4663)	--	N/A	M	Lithic Scatter, Foundation, Historic Debris, Waste Rock Pile	Individually Eligible / non-CE KR3HD	X		USFS
P-54-004837	N/A	05-13-56-00860	N/A	M	BRM, Lithic Scatter, Concrete Stairs	Unevaluated		X	USFS
P-54-005238	CA-TUL-3094	--	N/A	P	1 BRM, Groundstone	Unevaluated		X	USFS
P-54-005330	CA-TUL-3111	--	N/A	M	Lithic Scatter, Rock Alignments, Historic Debris	Unevaluated	X		USFS
P-54-005407	CA-TUL-003160/H	--	CWA002-S-1311	M	Metate, Historic Debris	Unevaluated		X	USFS
P-54-4005411	CA-TUL-003161/H	--	CWA002-S-1313	M	Lithic Scatter, Historic Debris	Unevaluated		X	USFS
P-54-005414	CA-TUL-003164/H	--	CWA002-S-1349	M	Lithic Scatter, Groundstone, Historic Debris	Unevaluated	X		USFS
N/A	N/A	05-13-54-00542	N/A	P	1 BRM (feature has been pushed off road not in-situ)	Unevaluated		X	USFS
N/A	N/A	05-13-56-00090	N/A	P	BRM, 2 Possible Milling Stations	Unevaluated		X	USFS / Private
N/A	N/A	05-13-56-00114	N/A	P	need site record	Unevaluated		X	USFS / Private
N/A	N/A	05-13-56-00263	N/A	P	need site record	Unevaluated		X	USFS
N/A	N/A	05-13-56-00728	N/A	P	1 BRM	Unevaluated		X	USFS
N/A	N/A	05-13-56-00778	N/A	M	BRM, Lithic Scatter, Groundstone; Concrete Foundations	Unevaluated		X	USFS

Primary Number	Trinomial	USFS Number	Other Identifier	Site Type	Composition of Site	NRHP Eligibility	In APE	In Study Area	Property Owner
N/A	N/A	05-13-56-00781	N/A	P	3 BRMs	Unevaluated		X	USFS
N/A	N/A	05-13-56-00813	N/A	P	Lithic Scatter, Rock Shelter, Handstone	Unevaluated		X	USFS
N/A	N/A	05-13-56-00814	N/A	P	Lithic Scatter, Rock Shelter, Milling Feature, Midden, Petroglyph	Unevaluated		X	USFS
N/A	N/A	05-13-56-00851	N/A	M	BRM, Stone Foundation, Fire Pits	Unevaluated		X	USFS
N/A	N/A	05-13-56-00852	N/A	M	Lithic Scatter, Rock Walls	Unevaluated		X	USFS
N/A	N/A	05-13-56-00853	N/A	P	4 BRMs	Unevaluated		X	USFS
N/A	N/A	05-13-56-00854	N/A	M	4 BRMs, Concrete / Rock Fireplace	Unevaluated		X	USFS
N/A	N/A	05-13-56-00855	N/A	P	10 BRMs, Pictograph	Unevaluated	X		USFS
N/A	N/A	05-13-56-00856	N/A	H	Concrete Pad, Fire Pit	Unevaluated		X	USFS
N/A	N/A	--	CWA002-S-1207	M	Lithic, Historic Debris	Unevaluated		X	USFS
N/A	N/A	--	CWA002-S-1221	H	Concrete Foundation, Hearth Feature, Historic Debris	Unevaluated	X		USFS
N/A	N/A	--	CWA002-S-1322	M	Lithic Scatter, Rock Hearth, Groundstone	Unevaluated		X	USFS
N/A	N/A	--	IEA20150719-001	H	Stone and Mortar Retaining Wall (Need Record)	Unevaluated		X	USFS

APE = Area of Potential Effects; BRM = bedrock milling station; CE KR3HD = Contributing Element to the Kern River No. 3 Historic District; H = Historic; M = Multicomponent; N/A = data not available; NRHP = National Register of Historic Places; P = Prehistoric; USFS = U.S. Forest Service

Table 5-3. Previously Recorded Built-Environment Resources Located Within the Proposed Study Area and APE

Primary Number	Trinomial	USFS Number	Other Identifier	Historic Name / Current Name (if different)	Resource Type	Date of Construction/Period of Significance	NRHP Eligibility	In proposed APE	In Study Area	Property Owner
P-54-004634 (and other associated P numbers)	CA-TUL-2887	05-13-56-00022	N/A	HAER No. CA-2309; Kern 3 Hydroelectric System Historic District	Kern 3 Historic District	1910-1930	Eligible historic district	X		SCE/USFS
P-15-015173	N/A	N/A	N/A	Camp Irwin Owen	Kern County Probation Dept. Juvenile Probation Camp	1938-present	Not individually eligible / non- CE KR3HD	X		USFS/Kern County
N/A	N/A	N/A	CWA002-S-1317 (erroneously recorded as a site)*		Two erosion control features along County Road SM99, an earthen check dam and a steel culvert with cobble and cement facing	Unknown	Unevaluated		X	USFS

APE = Area of Potential Effects; N/A = data not available; NRHP = National Register of Historic Places; SCE = Southern California Edison; USFS = U.S. Forest Service; *Site Record Very Old, Location is Uncertain

5.4. PREVIOUSLY RECORDED NON-AMERICAN INDIAN TRADITIONAL CULTURAL PROPERTIES

No non-American Indian traditional resources have been identified within the APE. Non-American Indian resources anticipated to be identified within the APE are likely to be related to Project construction, road construction, settlement, mining, and recreation.

6.0 STUDY APPROACH

6.1. GENERAL CONCEPTS

- Personal safety is an important consideration of each fieldwork team. If SCE determines the information cannot be collected in a safe manner, SCE will notify FERC and relicensing participants as soon as possible via email to discuss alternative approaches to perform the study.
- SCE shall obtain permission to access private property where needed well in advance of performance of the study. If access is not granted or if it is not feasible or safe, SCE will notify FERC and relicensing participants as soon as possible via email to discuss alternative approaches to perform the study.
- Field crews may make minor modifications to the study proposal in the field to accommodate actual field conditions and unforeseen problems. When modifications are made, the SCE field crew will follow the protocols in this Study Plan. If minor modifications are made SCE will notify FERC and relicensing participants as soon as possible via email to discuss alternative approaches to perform the study.
- SCE's performance of the study does not presume SCE is responsible as in whole or in part for resource management measures that may arise from that study.
- SCE shall treat all information regarding the specific locations of archaeological sites as privileged and confidential. The Global Positioning System (GPS) coordinates and maps showing the locations of such resources will not be made available to any relicensing participant other than the SQF, FERC, State Historic Preservation Office (SHPO), the SSJVIC, and participating Tribes.

6.2. STUDY METHODS

The methods proposed to meet the study goals and objectives are discussed in the following sections.

6.2.1. ARCHIVAL RESEARCH

As needed during implementation of the studies, archival research will be conducted at most of the repositories listed below to obtain additional information specific to the prehistory, ethnography, and history of the Project Area, the hydroelectric Project in whole, and its individual features. This may include contacting SCE employees, as appropriate, to gather feature-specific information. The results of the archival research will serve as the basis for preparing the prehistoric and historic contexts against which archaeological and built-environment resources may be evaluated. Historical

photographs located during the archival research will be cited in the text as figures and provided in a separate appendix unless they are subject to copyright laws. Previous NRHP evaluations of Project features will be used as much as possible (although, if previous studies are dated or lacking in necessary detail, additional, site-specific research may be required on an as-needed basis during the studies). Places to be contacted or visited include:

- Annie Mitchell Local History Research Room, Tulare County Library, Visalia
- Autry Museum of the American West, Los Angeles
- California State Archive, Sacramento
- California State Library, California History Room, Sacramento
- California State University Bakersfield Archives
- Fort Tejon Historical Association, Lebec
- Fort Tejon State Historic Park, Fort Tejon
- Hulse and Essene (Berkeley and elsewhere)
- Huntington Library, SCE Collection: Records, Documents, and Photos
- Kern Valley Historical Society and Museum, Kernville
- Kern County Museum, Bakersfield
- Kern County Historical Society, Bakersfield
- Maturango Museum, Ridgecrest
- National Archive and Records Administration (Riverside and San Bruno)
- Native American Heritage Commission
- Pomona Public Library, Pomona
- SSJVIC, California State University, Bakersfield
- SCE, Rosemead Office
- Tulare County Historical Society, Visalia
- USFS, SQF Ranger District
- University of California, Berkeley, Bancroft Library
- Other online repositories as applicable

6.2.2. MEETINGS WITH TRIBAL GOVERNMENTS

All Tribal groups will be contacted via telephone or email at a minimum to elicit their interest. As appropriate, meeting(s) with Tribal governments and/or Tribal members will be held.

6.2.3. ARCHAEOLOGICAL INVENTORY

Based on the existing data described above, FERC is required to make a reasonable and good-faith effort to identify historic properties that may be affected by the Project. As described in 36 CFR 800.4(b)(1), this may be accomplished through sample field investigations and/or field surveys within the APE that are implemented in accordance with the Secretary of the Interior's Standards and Guidelines for Identification (NPS, 1983). FERC is required to consider any other applicable professional standards and Tribal, state, or local laws or procedures to complete the identification of historic properties.

To assist FERC in meeting its compliance obligations and to develop appropriate management measures for historic properties identified within the APE, an archaeological inventory will be performed to verify locations of previously recorded archaeological resources and to examine accessible lands not previously surveyed or that need to be resurveyed to meet current professional standards.

Areas within the APE that cannot be accessed in a safe manner (e.g., locations with dense vegetation or unsafe slopes) will not be included within the survey or recording of archaeological resources; these areas will be identified in the resulting survey report and an explanation for survey exclusion will be provided.

The field survey will be supervised by one or more qualified, professional archaeologists (i.e., individuals who meet the Secretary of the Interior's Professional Qualifications for Archaeology) who will participate in all field work. During the survey, archaeologists will walk parallel transects spaced at no more than 65.6-feet intervals (20-meters) as vegetation and terrain allow. The purpose of the field survey is to: (1) examine lands that have not been previously surveyed; (2) examine lands previously surveyed but where the field strategy is unknown; and (3) examine lands previously surveyed but for which the field strategy does not meet current professional standards, as defined in the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (NPS, 1983) and the California Office of Historic Preservation (OHP).

Locations of previously recorded archaeological sites within the APE will be verified, and their site records will be updated only if the existing documentation does not meet current standards for recording or if the condition and/or integrity of the property has changed since its previous recording. The archaeologists will determine if sketch maps for previously documented sites require revision to describe current site conditions more accurately. Newly discovered archaeological resources within the APE, including isolated finds, will be fully documented following the documentation procedures outlined in *Instructions for Recording Historical Resources* (OHP, 1995), which utilizes California

Department of Parks and Recreation (DPR) Forms 523 A through L. Sketch maps will be drawn to-scale and the resource will be photographed. Field personnel will use a GPS receiver to document the location of cultural resources (including isolates) which will be plotted onto the appropriate U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle using the Universal Transverse Mercator (UTM) coordinate system. GPS data collection will adhere to the SQF specifications for accuracy and site-specific procedures where applicable. Additionally, the areas examined will be plotted onto the appropriate USGS 7.5-minute topographic quadrangle for comparison with previous survey coverage maps.

Archaeological surveys that occur on SQF lands will require valid Organic Act permits. Any ground disturbing testing that occurs on SQF lands will require valid Archaeological Resource Protection Act (ARPA) permits. SCE, or, as appropriate, their consultants will obtain all required permits prior to beginning field work and notify the SQF when field work is scheduled. Representative, examples of time diagnostic artifacts will be photographed, and described. All artifacts encountered during the field survey will be left in place; no artifacts will be collected during the field survey.

6.2.3.1. Discovery and Treatment of Human Remains

FEDERALLY MANAGED LANDS

Should human skeletal materials, burials, and/or associated funerary objects be identified during the survey or other Project phases or prior to license issuance on federal land, at the moment of discovery all work in the immediate area will cease and the location of the find will be secured. Personnel responsible for the discovery will notify the SCE Cultural Resources Specialist who in-turn will notify the appropriate federal land management agency's archaeologist and law enforcement officer. The remains will be treated in accordance with protocols of the appropriate land management agency.

If the human skeletal remains are Native American and are located on federal land, FERC and SCE's Cultural Resources Specialist shall coordinate with the SQF to comply with their Native American Graves Protection and Repatriation Act (NAGPRA) protocols pursuant to 25 United States Code (USC) 3001 et seq.

PRIVATE OR STATE LAND

Should human skeletal materials, burials and/or associated funerary objects be identified during the survey or other Project phases or prior to license issuance, they will be treated in accordance with California Health and Safety Code (CHSC) Section 7050.5(b). At the moment of discovery, all work in the immediate area will cease and the location of the find will be secured. Personnel responsible for the discovery will notify the SCE Cultural Resources Specialist who in-turn, given that the skeletal materials are verified as human, will contact the Kern County Coroner, and a qualified archaeologist will be secured to evaluate the find to determine, in consultation with the coroner, if the remains are Native American. The skeletal remains will be treated following CHSC Section 7050.5.

6.2.4. BUILT-ENVIRONMENT INVENTORY

Field inspection, documentation and subsequent NRHP evaluation of resources within the APE will be undertaken by individuals meeting the Secretary of the Interior's Professional Qualifications for Architectural History (NPS, 2021). The architectural historian will record or re-record (as appropriate, to meet current OHP and California Department of Parks and Recreation standards) each individual building or structure within the APE, including those that do not yet meet the age requirement for evaluation for the relicensing effort which in consultation with the SQF is any building or structure that will attain 45 years of age by of 2027. In addition to the hydroelectric-related resources, the architectural historian will be specifically looking for buildings, structures, and objects associated with construction, grazing, mining and recreation as well as any additional resources found during survey.

Fieldwork will include digital color photography of all resources and the production of sketch maps of individual features which show the relationship of buildings and structures within each complex that may be associated with them (e.g., an operational hydroelectric facility or a campground within the APE). When possible, GPS points will be taken of each resource that will then be plotted onto maps to create a comprehensive inventory of built-environment resources within the APE.

6.2.5. NON-AMERICAN INDIAN TRADITIONAL RESOURCES

As described above, FERC is required to make a reasonable and good-faith effort to identify historic properties that may be affected by the Project. As described in 36 CFR 800.4(b)(1), this may be accomplished through sample field investigations and/or field surveys that are implemented in accordance with the *Secretary of the Interior's Standards and Guidelines for Identification* (NPS, 1983). FERC is required to consider any other applicable professional standards and Tribal, state, or local laws or procedures to complete the identification of historic properties. To assist FERC in meeting its compliance obligations, and to develop appropriate management measures for historic properties identified within the APE, a non-American Indian traditional resources inventory will be performed to identify their presence.

The inventory will be coordinated among the archaeological, built environment, and Native American Traditional Resource studies. Supervision will be a joint effort by one or more qualified, professionals who meet the *Secretary of the Interior's Professional Qualifications Standards*, and who will participate in all research, public outreach, and field work.

If a potential resource is identified during research, public outreach, and/or field work, oral interviews and/or field verification will be conducted as appropriate. Resource locations will be verified and fully documented following NRHP Bulletin No. 38, *Guidelines for Evaluating and Documenting Identification of Traditional Cultural Properties* (Parker and King, 1990, 1998). The locations of all non-American Indian TCRs identified during the survey will be entered into a GPS receiver to document the location, which will be plotted onto the appropriate USGS 7.5-minute topographic quadrangle using the UTM coordinate

system. GPS data collection will adhere to the SQF specifications for accuracy and site-specific procedures where applicable.

6.2.6. National Register of Historic Places Evaluation

SCE shall utilize the results of the inventories to prepare, in collaboration with the SQF, Tribes, and other relicensing participants, an Evaluation Plan that will be executed to evaluate the eligibility of potential historic properties (in this case, archaeological sites, built-environment resources, and non-American Indian TCPs) for the NRHP. The Evaluation Plan will include an assessment of past, present, and reasonably foreseeable Project effects on potential historic properties and detail the methods of evaluation to be implemented. The Evaluation Plan will be provided to the TWG as appropriate for review 30 days prior to submitting to the OHP.

National Register Criteria For Evaluation

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- Are associated with events that have made a significant contribution to the broad pattern of American history; or
- Are associated with the lives of persons significant in America's past; or
- Embody the distinctive characteristics of a type, period, or method of construction; or
- Represent the work of a master; or
- Possess high artistic values; or
- Represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important to prehistory or history (NPS, 1997).

7.0 REPORTING AND HISTORIC PROPERTIES MANAGEMENT PLAN

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule.

In addition, SCE may prepare interim reports during the study to apprise relevant agencies and Tribes on study implementation progress and to support ongoing consultation. The archaeological records and other sensitive information will be included in a confidential report withheld from public disclosure, in accordance with Section 304

(16 USC 4702-3) of the NHPA, and provided directly to relevant agencies and Tribes. Standard GIS shapefiles, including metadata, will be provided to relevant agencies and Tribes upon request. The information provided in the ISR/USR and confidential report will be summarized in, and appended to, the Application for New License.

SCE anticipates FERC will enter into a programmatic agreement with the ACHP, OHP, and any other agencies or entities FERC elects to include. SCE anticipates that one of the programmatic agreement stipulations will be the completion and implementation of a HPMP to be implemented during the new license term.

The HPMP will consider direct and indirect effects of continued Project Operations and Maintenance on NRHP-listed or eligible archaeological and built-environment resources and will require avoidance and protection of specified resources, whenever possible. Processes and procedures will be developed for general and site-specific treatment measures, including minimization and mitigation measures to be taken should license implementation create unavoidable adverse effects to historic properties.

8.0 COORDINATION WITH OTHER STUDIES

To the extent feasible, SCE will coordinate archaeological and built-environment resources field studies with other Project-related environmental studies (e.g., Tribal resources and habitat surveys) and conduct them in a manner that does not affect other sensitive natural resources. When conducting archaeological and built-environment resources or other investigations, Project sponsors should consider that Tribes may utilize natural resources for subsistence or specific ceremonial uses and should avoid affecting those uses or events while conducting studies.

9.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

The proposed study methods discussed in this document are consistent with the study methods followed in several recent relicensing projects along the western slope of the Sierra Nevada. These methods have been accepted by the participating Tribes, agencies, and other interested parties associated with those projects. The methods presented in this Study Plan are consistent with ACHP guidelines for compliance with the requirements of Section 106 of the NHPA found in 36 CFR 800.

10.0 SCHEDULE

Date	Activity
Spring 2022	Consult with resource agencies and affected Tribes regarding cultural resource studies; Conduct background research online and at the appropriate repositories
Spring–Fall 2022	Conduct cultural resource surveys, including historic-period archaeological site and built-environment evaluations
Summer–Winter 2022/2023	Compile cultural resource survey data and information

Date	Activity
Spring 2023	As needed, conduct pre-contact archaeological site evaluations and any follow-up survey and/or historic-period site or built-environment resource evaluations
August 2023	Provide Study Plan progress and schedule update with ISR
August 2024	Provide Cultural Resource Report with USR
Summer/Fall 2024	Prepare and distribute draft HPMP

HPMP = Historic Properties Management Plan; ISR = Initial Study Report; USR = Updated Study Report

11.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for this study is $650,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting. The cost estimate may change because it depends on several factors including the nature and number of cultural resources identified.

12.0 REFERENCES

Technical references identified thus far include the following:

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TRI-1 TRIBAL RESOURCE STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

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1.0 POTENTIAL RESOURCE ISSUE

SCE along with a Technical Working Group (TWG) of Stakeholders, including the federal land-managing agency, Sequoia National Forest (SQF), Tribes, and other interested parties identified the need to conduct Tribal Resource ethnographic and ethnohistoric research. Technical professionals of the relicensing team have further acknowledged that to date there has been no investigation of the Project Area American Indian ethnography, the potential for American Indian Traditional Cultural Properties (TCPs), or the potential for other American Indian resources, some of which may be eligible for listing in the National Register of Historic Places (NRHP). This *TRI-1 Tribal Resource Study Plan* is presented to address the need to conduct this baseline research. Potential resource areas include TCPs; tribal economic ventures; resources of traditional, cultural, or religious importance; and environmental considerations of importance to the American Indian community

Research has indicated there are no American Indian federal trust lands/allotments in the proposed Area of Potential Effects (APE), although formerly a least one federal trust allotment existed in the proposed Study Area. The Tejon Indian Tribe is the sole federally recognized Tribe in Kern County, but is as yet without federal trust land. The Tule River Indian Tribe is the only federally recognized Tribe in Tulare County, with reservation lands of nearly 50,000 acres located roughly 25 miles northwest of the Project. Several other Tribes, as discussed in the Tribal Resource Section of the Pre-Application Document (PAD), also have an interest in the Project Area.

Each Tribe may have resources of value in the Study Area. There may be Tribal gathering, fishing, or hunting areas in the Project Vicinity, as the local American Indian community continues to access medicine plants, food plants, materials for tools, and many other items as part of their ongoing traditional cultural lifeways. The communities also have a connection with certain biological species, which may not be currently present in the area, but nonetheless have value to heritage, stories, and traditional ecological knowledge (TEK). Ceremonies and cultural transmission of values (teaching youth and others) among at least one local Tribe also appears to be ongoing. Some of these places may be TCPs or other properties eligible for inclusion in the NRHP based on associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions. Some of the resources may not be TCPs because they are not associated with the ongoing community values, but may have other ethnographic or Tribal values, and may also be eligible for NRHP listing. There is potential for both American Indian TCPs and other historic properties to be located in the Project. Located in the region there are potentially other Tribal Resources that have values other than those traditionally investigated in historic property surveys. The Federal Energy Regulatory Commission (FERC) recognizes these values. The National Historic Preservation Act (NHPA) implementing regulations from the Code of Federal Regulations, Title 36, Part 800 (36 CFR 800) apply Section 101(d)(6)(B)) of NHPA by stating that when properties of religious and cultural significance to Tribes may be affected by an undertaking, consultation with the Tribes is required, and that the Tribe shall be a consulting party. To date, neither new

research nor interviews have been conducted to identify or discuss such places of religious or cultural significance specific to this Project.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

The FERC decision to issue a new license is considered a federal undertaking pursuant to 36 CFR 800.16(y). The NHPA requires federal agencies to take into account the effect of its undertakings on historic properties and allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment.

Continued Project operation and maintenance (O&M) and other activities, including public recreation activities, may have an effect on Tribal Resources, which may include historic properties. The effect may be direct (e.g., result of ground-disturbing activities), indirect (e.g., public access to Project areas), or cumulative (e.g., caused by a Project activity or public access in combination with other past, present, and reasonably foreseeable future projects). Tribal consultants have indicated they would like to have an understanding of previous effects, and the Tribal resource study will focus on the identifying potential effects to Tribal resources.

FERC's requirements for involving Tribes outline the need to:

- Describe Tribes, Tribal lands, and Tribal interests that may be affected by the Project;
- Include analysis of existing Project construction and operations that may impact Tribal cultural or economic interests; and
- Identify impacts on Tribes from existing Project construction and operations that may affect Tribal interests (e.g., Tribal fishing practices or agreements between the Tribe and other entities) not necessarily associated with archaeological resources or other historic properties.

The Tribal Resource study proposes to identify:

- Tribal matters that exist because of the Project;
- Project effects on Tribal resources that may be direct, indirect, and/or cumulative;
- Existing agreements Tribes may have with other entities, such as the SQF regarding access to Tribal resources, including but not limited to gathering (and gathering protocols), fishing, hunting, camping, ceremony, or other special uses; and
- Resource management goals of the U.S. Forest Service and take them into account when assessing effects.

Data collected during this study will inform the following:

- *Tribal Resource Technical Study Report* (TRI-1).
- *Tribal Resource Evaluation Report* as needed (may be included in *TRI-1 Tribal Resource Technical Study Report*.

- Technical assistance to the cultural resource team, as needed.
- Tribal resource input for the Historic Properties Management Plan (HPMP) with the goal of managing NRHP-eligible Tribal resources and other resources with identified Native values.

3.0 STUDY GOALS AND OBJECTIVES

The principal goal of the *TRI-1 Tribal Resource Study Plan* implementation is to assist FERC in meeting compliance requirements identified in its regulations (18 CFR Part 5) along with those requirements subject to NHPA Section 106 (as amended), among other federal laws and regulations, by determining if licensing of the Project would have an effect on Tribal Resources, which may also include historic properties. FERC desires to know to whether and to what extent the existing Project O&M may effect Tribal cultural or economic interests, Tribal cultural sites, and may have cross interests with other technical group studies. In addition to historic properties, which may be a type of Tribal resource, there are other Tribal resources that may be identified through archival research, oral interviews, field inspections, and government-to-government consultation. The study intends to ensure such places are described from a Tribal perspective and to identify options for potential O&M effects.

Research conducted to date suggests that an ethnographic overview/background of the Project Area has never been conducted. Additional goals of the Study Plan implementation are to ensure that Tribal values and resources are identified and acknowledged from a Tribal perspective, and that an adequate baseline ethnohistory is developed. Similarly, ensuring that the land-managing agencies and any other Stakeholder agencies have their program needs met with respect to the Project APE is a goal of the work. Finally, it is anticipated that management issues will be identified to be described and developed in subsequent planning efforts for the life of the license.

- Identify and document Tribal resources identified within or immediately adjacent to the proposed APE.
- Conduct an American Indian ethnographic/ethnohistoric survey of the proposed APE and Study Area.
- Conduct outreach and contact with Tribal governments and their representatives.

4.0 STUDY AREA AND STUDY SITES

The Tribal resource study will focus upon the FERC Project Boundary, currently coincident with the proposed APE, and a larger Study Area proposed to be a 5-mile radius from the APE. This Study Area is a guide for archival research, development of the historic context and background statements, and general Tribal informant interviews (Figure 4-1).

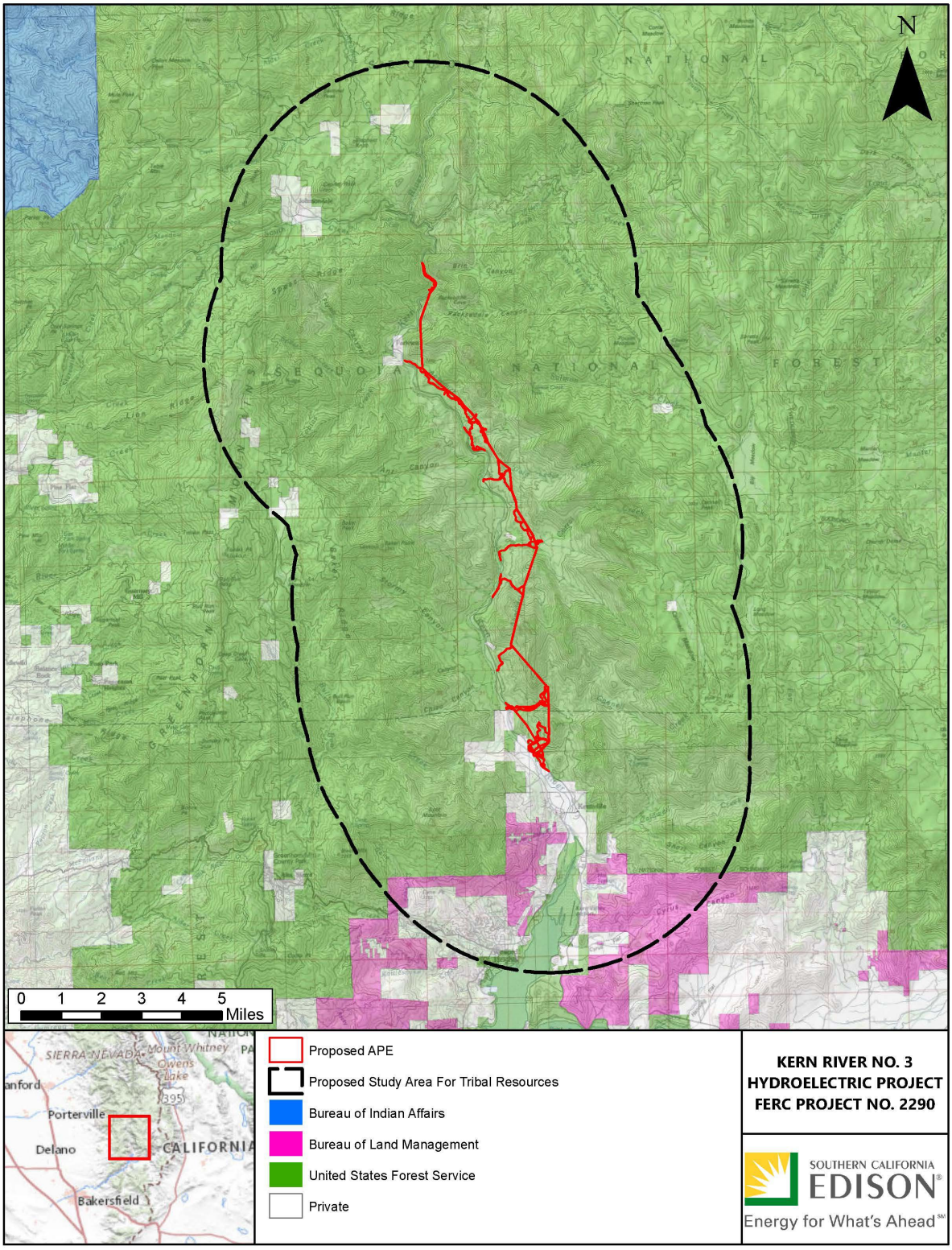

Figure 4-1. Proposed Tribal Resource APE with Study Area.

5.0 EXISTING INFORMATION

Section 5.12, *Tribal Resource*, of the PAD describes existing information, partially summarized in the bullets below.

- Native American Heritage Commission (NAHC) Sacred Lands File and Native American Consultation List (NAHC, 2020) identified 13 Tribal groups with affiliation to the Project Area.
- Nineteen cultural affiliations/heritage associations have been identified by extracting data from mid-late 20th century ethnographic work in the vicinity.
- An ethnographic background for the existing license (Blount, 1990; Blount and McCarthy, 1990) provided some information about resources. Other available ethnographic literature includes Davis-King et al., 2010; Stephen Powers, 1976; Smith, 1978; C. Voegelin, 1935a, 1935b; E. Voegelin, 1938.
- Local historian, Bob Powers (1974, 1979, 1980, 1989, 1999, 2003) provided extensive summaries of historic and American Indian issues in the region.
- The Garcés Diary (Coues, 1900) of pre-statehood exploration in the Study Area provided details about lifeways, trade patterns, and cultural affiliations.
- The Project is located in the specific drainage and general vicinity of the 1862 massacre of the Kern River people.
- Numerous named places known in the Study Area have been identified to include villages, gathering locales, sacred areas, burial grounds, fishing locales, hunting grounds, and more.

These background data are applicable to a broader territory than the Project APE, and to date there has not been an investigation of the main stem of the Kern River. Previous ethnographies have focused on nearby and related Tribal groups but not on the specific Project Area Tribal group, the Palawan.

6.0 STUDY APPROACH

6.1. GENERAL CONCEPTS

- Personal safety is an important consideration of each fieldwork team. If SCE determines the information cannot be collected in a safe manner, SCE will notify FERC and relicensing participants via email to discuss alternative approaches to perform the study.
- SCE shall obtain permission to access private property where needed. If access is not granted, or if it is not feasible or safe, SCE will notify FERC and relicensing participants via email to discuss alternative approaches to perform the study.
- SCE shall treat all information regarding the specific locations of Tribal resources as privileged and confidential if the Tribes express this need.

6.2. STUDY METHODS

The methods proposed to meet study goals are listed below.

6.3. ARCHIVAL RESEARCH

As needed during the implementation of the studies, archival research will be conducted at most of the repositories listed below to obtain additional information specific to the prehistory, ethnography, and history of the Project Area. The results of the archival research will (1) provide primary data to create a background American Indian ethnohistory of the proposed Study Project Area, and (2) inform the Tribal resource historic context against which such resources may be evaluated for the NRHP.

The Tribal resource expert will conduct background archival research of the Study Area. This will involve visits to many repositories, which may include:

- Annie Mitchell Local History Research Room, Tulare County Library, Visalia
- Autry Museum of the American West, Los Angeles
- California State Archive
- California State Library, California History Room
- Fort Tejon Historical Association
- Fort Tejon State Historic Park, Fort Tejon
- Hulse and Essene (Berkeley and elsewhere)
- Harrington (n.d.) fieldnotes (available online?)
- Huntington Library
- Kern County Museum, Bakersfield
- Kern Valley Historical Society and Museum, Kernville
- Kern County Historical Society, Bakersfield
- Tulare County Historical Society, Visalia
- California State University Bakersfield Archives
- Maturango Museum, Ridgecrest
- National Archive and Records Administration (Riverside and San Bruno)
- Pomona Public Library, Pomona
- SQF
- Southern California Edison Archive (Huntington Library)

- University of California, Berkeley, Bancroft Library (Waterman, n.d.)
- University of California, Davis, C. Hart Merriam Collection
- University of California, Riverside, J. P. Harrington Field Notes

Background research will be conducted as needed throughout the life of the Project.

7.0 ASSIST OTHER RESOURCE SPECIALISTS

Other resource areas may have a connection to Tribal resources. This includes various biological areas, water, trails and recreation, among other areas. As needed, the Tribal resource expert will work to assist other resource experts. Assistance to the cultural resource team is anticipated to aid field identification and documentation of historic American Indian resources, potential gathering areas, and other places that may have value to Tribes.

8.0 MEETINGS WITH TRIBAL GOVERNMENTS

Meetings with Tribal governments or administrators and/or attendance at Tribal Council meetings are proposed to provide Project data to Tribal groups, elicit areas of interest, identify appropriate Tribal informants, and establish protocols for conveying information. To date, 13 Tribes have been identified as having potential interests in the Project. These are:

- Big Pine Paiute Tribe of Owens Valley
- Chumash Indian Council of Bakersfield
- Fort Independence Indian Community of Paiute Indians/Fort Independence Reservation
- Kawaiisu Tribe
- Kern Valley Indian Community
- Kitanemuk & Yowlumne Tejon Indians
- Lone Pine Paiute-Shoshone Tribe
- Santa Rosa Indian Community of The Santa Rosa Rancheria
- Tejon Indian Tribe
- Tübatulabals Of Kern Valley
- Tule River Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band
- Yak Titᵴu Titᵴu Yak Tiłhini - Northern Chumash Tribe

One Tribe has participated in TWG meetings to date and is expected to participate further in this study. Another Tribe responded to FERC's release of the draft PAD and requested information from the cultural resource team. All Tribal groups will be contacted via telephone or email at a minimum to elicit their interest. At least three Tribal government meetings are anticipated.

9.0 INTERVIEWS

Fifteen interviews are proposed with Tribal experts to gain understanding about what is important to them and why. Knowledgeable individuals from each of the participating Tribes will be interviewed. The methods and nature of the interviews are expected to vary from person to person, while some may be held in the field Project Area, others held in private homes, and still others held via telephone or teleconference. Interview records are similarly likely to be variable regarding confidentiality protocols and the Tribal expert's willingness to share. Recording methods (handwritten notes, video, audio tape, etc.) will be determined by consulting with the informant.

10.0 DOCUMENTATION AND EVALUATION

Three main categories of Tribal resources are anticipated. These are: (1) Tribal Places; (2) TCPs; and (3) Tribal Matters. Each is documented in a different manner. Tribal places may be potential historic properties, places associated with the ancestral past, related to current gathering and/or hunting practices, or other resource types. Those that qualify as potential historic properties will be documented on California Department of Parks and Recreation (DPR) 523 forms as appropriate and with Tribal permission, while others will be described in the TRI-1 Study. TCPs will be documented on DPR 523 forms. Tribal Matters may be documented in the TRI-1 Study or may be larger resource types. All resources will be documented and described according to Tribal values and submitted for review to Tribal representatives. NRHP evaluation of Tribal resources suitable for DPR 523 documentation will use site-specific procedures to identify historic context of the resource, the boundaries, the jurisdiction or land ownership, the Tribal significance, integrity from a Tribal perspective, and contributing characteristics. Evaluation of other resource types may occur at the managerial or agency level.

11.0 REPORTING AND HISTORIC PROPERTIES MANAGEMENT PLAN

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule.

In addition, SCE may prepare interim reports during the study to apprise relevant agencies and Tribes on study implementation progress and to support ongoing consultation. Tribal Resource documentation and other sensitive information may be included in a confidential report withheld from public disclosure, in accordance with

Section 304 (United States Code, Title 16, Section 4702-3) of the NHPA. The California Public Records Act similarly exempts site data from disclosure while Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality related to any information submitted by a Tribe during the environmental review process, including, but not limited to, the location, description, and use of the tribal cultural resources. The information provided in the ISR/USR and confidential reports will be summarized in, and appended to, the Application for New License.

SCE anticipates FERC will enter into a programmatic agreement (PA) with the ACHP, California Office of Historic Preservation, and any other agencies or entities FERC elects to include. SCE anticipates that one of the PA stipulations will be the completion and implementation of a HPMP through the new license term.

The HPMP will consider direct and indirect effects of continued Project O&M on NRHP-listed or Tribal resources and will require avoidance and protection of specified resources, whenever possible. Processes and procedures will be developed for general and resource-specific treatment measures, including mitigation measures to be taken should license implementation create unavoidable adverse effects to historic properties.

12.0 COORDINATION WITH OTHER SUDIES / WORK WITH OTHER TECHNICAL LEADS TO INTEGRATE TRIBAL CONSIDERATIONS

To the extent feasible, SCE will coordinate Tribal resource studies with other Project-related environmental studies (e.g., cultural resources and habitat surveys) and conduct them in a manner that does not affect other sensitive natural resources. When conducting Tribal resource investigations, Project sponsors and/or their contractors should consider that Tribes may utilize natural resources for subsistence, medicine, tools, ceremonial uses, and other activities, and should avoid affecting those uses or events while conducting studies.

13.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

The Tribal resource investigation will make a good-faith effort at proper communication with Tribal leaders as laid out in FERC's *Policy Statement on Consultation with Indian Tribes in Commission Proceedings*, issued July 23, 2003 (Docket No. PL03-4-000; Order No. 635; FERC 2003). The investigation will also follow the FERC regulations at 18 CFR § 2.1c, which added a policy statement on consultation with Tribes in FERC proceedings.

All phases of the Tribal Resource investigation will be conducted in accordance with the American Indian community consultation standards outlined by the implementing regulations of Sections 101 and 106 of the NHPA and discussed in the 2012 ACHP publication *Consultation with Indian Tribes in the Section 106 Review Process: A Handbook*.

Potential TCP documentation, consultation, and any necessary fieldwork will be implemented in accordance with Section 106 of the NHPA, as amended, and shall take into consideration National Register Bulletin No. 38, *Guidelines for Evaluating and*

Documenting Identification of Traditional Cultural Properties (Parker and King 1990, 1998).

Tribal Resource documentation will be implemented in accordance with FERC regulations and with Section 106 of the NHPA, as amended, if such resources are potential historic properties, and shall take into consideration National Register Bulletin No. 38 (Parker and King 1998).

NRHP evaluations will be conducted in adherence with National Register Bulletin No. 15, *How to Apply the National Register Criteria for Evaluation* (NPS 1995), and other NRHP Bulletins as appropriate.

14.0 RELATIONSHIP TO OTHER STUDIES

Tribal resources may include animals, plants, the air, the sky, water, archaeological sites, gathering areas, hunting locales, places in stories, and many more categories. Thus, from a Tribal perspective, all of the relicensing studies are investigating some sort of Tribal resource. This will be considered in the study analysis, with several specific aspects listed below:

- The location of culturally important plant species identified by Tribes will be incorporated into the TRI-1 Study, as appropriate, and shared with the botanical resource study team.
- Information about culturally important aquatic species, including fisheries, identified by Tribes will be incorporated into the TRI-1 Study, as appropriate, and shared with the proposed aquatic resource study team.
- Information about culturally important terrestrial animal species identified by Tribes will be incorporated into the TRI-1 Study, as appropriate, and shared with the proposed terrestrial resource study team.
- The locations of culturally important plant and/or animal species will be considered in the Recreation and Land Use Study, to the extent possible without divulging confidential information.
- Information on sites associated with prehistoric and ethnographic-period American Indian occupation and use of the landscape will be identified in both the TRI-1 and CUL-1 Studies.

15.0 SCHEDULE

Date	Activity
Spring 2022	Work with Tribal groups to arrange meetings and establish protocols; Meet with relevant resource agencies and affected Tribes regarding Tribal resource studies; Conduct archival research online and at appropriate repositories
Summer–Fall 2022	Conduct Tribal site visits and assist with cultural resource surveys
Spring–Summer 2023	Continue identification and evaluation of Tribal resources, as needed

Date	Activity
August 2023	Provide study plan progress and schedule update with ISR
August 2024	Provide Tribal Resources Report with USR
Summer–Fall 2024	Prepare and distribute draft HPMP

HPMP = Historic Properties Management Plan; ISR = Initial Study Report; SQF = Sequoia National Forest; USR = Updated Study Report

16.0 LEVEL OF EFFORT AND COST

The cost estimate (2022 dollars) for this study through the HPMP is estimated to be $70,000 to $95,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

17.0 REFERENCES

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LAND-1 ROAD CONDITION ASSESSMENT STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®

Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Erosion on or adjacent to Kern River No. 3 Hydroelectric Project (Project) Roads and Shared Access Roads may deliver sediment to adjacent drainages.
- Protection of resources during Project operation and maintenance (O&M) activities.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

Certain roads located on Sequoia National Forest (SQF) and on Southern California Edison Company (SCE)-owned lands are necessary to access various Project facilities for O&M of the Project.

3.0 STUDY GOALS AND OBJECTIVES

- Reconnaissance level inventory of Project and Shared Access Roads within the Federal Energy Regulatory Commission (FERC) Project Boundary to document current road conditions.
- Characterize SCE's current maintenance practices and frequency of Project and Shared Access Roads.
- Characterize the type of use along the study roads.

4.0 EXTENT OF STUDY AREA AND STUDY SITES

The study area includes Project and Shared Access Roads that are used to access Project facilities to conduct O&M activities. A list of Project and Shared Access Roads are listed on Table A-1 in Appendix A and shown on the map series in Appendix B.

5.0 EXISTING INFORMATION

The following information was included as part of SCE's Pre-Application Document (PAD) and reviewed to determine Road Condition Assessment study needs.

The FERC Project Boundary includes 33 roads (totaling over 18 miles) that SCE uses to access Project facilities to conduct ongoing O&M activities. The majority of these roads are on federal lands. A short segment (approximately 0.5 mile) of the KR3 Powerhouse Access Road is located on SCE-owned lands. SCE conducts maintenance on these roads to sustain access to Project facilities. The SQF Shared Access Roads are accessible by public to access other areas within the SQF.

These access roads are unpaved and may be susceptible to erosion where runoff flows from graded areas to natural slopes. To minimize erosion along the access roads and retain the original drainage to the extent possible, SCE routinely re-grades any disturbed areas to follow the pre-disturbance natural ground contours (SCE, 1997). To reduce erosion and dissipate energy from flowing water, SCE installs water bars constructed from

earth, concrete, or sandbags on steep slopes where necessary and applicable. Straw bales and sediment fences may also be installed to slow water flow and filter and capture sediment. Maintenance of dirt/native roads is described in Section 4.0 of the PAD and generally occurs annually or as needed.

Minor Project maintenance includes:

- Grading approximately within the road prism
- Debris removal and basic repairs including filing of potholes
- Maintenance of erosion control features such as drains, ditches, and water bars
- Repair, replacement, or installation of access control structures such as posts, cables, and barrier rock
- Cleaning and clearing debris and sediment from culverts with a backhoe or hand shovel
- Repair and replacement of signage
- Vegetation management may be conducted concurrently with road maintenance on an as-needed basis

Major Project Road maintenance includes:

- Placement or replacement of culverts and other drainage features

Most roads within the FERC Project Boundary have unrestricted public access (i.e., no gate). Roads or road segments with restricted public access (i.e., behind SCE-owned gates) are around Project facilities including Fairview Dam and the KR3 Powerhouse, as noted on Table A-1.

6.0 STUDY APPROACH

6.1. STUDY-SPECIFIC CONSULTATION

- Review and consult with the SQF on roads to be included as part of the evaluation.
- If available, obtain additional road information from SQF and incorporate information into the desktop analysis.

6.2. DESKTOP ANALYSIS

- With support from SCE O&M staff, compile past studies and/or road maintenance projects that may include information on location and size of culverts and frequency of maintenance activities.

- Qualitatively characterize the types of known use of Project and Shared Access Roads.

- Use desktop geographic information system (GIS) to compile data of available road features (i.e., culverts) and develop annotated maps for use during the Reconnaissance Level Condition Assessment.

6.3. RECONNAISSANCE LEVEL CONDITION ASSESSMENT

- All road features and evidence of active erosion or sediment sources will be photographed and located using a sub-meter Global Positioning System (GPS) unit and the data will be incorporated into the Project GIS database for tabulation, analysis, and mapping.

- Document any notable indicators of culvert capacity in relation to stream flow (e.g., signs of plugging, condition of drainage structures, etc.).

- Roads on National Forest System Lands will be surveyed with respect to U.S. Forest Service criteria for the assigned maintenance level (USFS 2005, 2014) to assess the current condition of the Project and Shared Access Roads relative to prescribed maintenance levels and standards. The following information will be collected as part of the road condition assessment:

  - Land ownership/jurisdiction

  - Route, road, or spur number (and common name, if applicable)

  - Beginning and end points, and overall length

  - Average width

  - Surface type (e.g., paved, gravel, dirt)

  - Overall road condition, including identification of issues pertaining to condition such as active erosion, potholes, ruts, loose aggregate, missing aggregate, cracking, debris, and excessive vegetation

  - Location, size, and condition of culverts, erosion control features, and other drainage features

  - Delineation of natural resource features that may occur along Project roads, such as stream crossings and riparian areas

  - Location and condition of safety, traffic control, and informational signs and access control features such as gates and other closure methods

Maintenance Characterization

- Identify and characterize SCE maintenance practices and frequency of activities, including culvert clearing and vegetation management.
- Characterize SCE's use of Project and Shared Access roads, including season of use and level or frequency of use.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the study plan and schedule and the data collected, including an explanation of any variance from the study plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. Standard GIS shapefiles, including metadata, will be provided to relevant agencies upon request. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

SCE is proposing to conduct this study during the course of one study year as outlined below.

Date	**Activity**
Fall/Winter 2022	Consult with SQF and compile existing resource information
Spring 2023	Conduct field surveys
Summer 2023	Analyze data and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

ISR = Initial Study Report; SQF = Sequoia National Forest; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $40,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

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APPENDIX A
PROJECT AND SHARED ACCESS ROADS

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Table A-1. Project and Shared Access Roads

SCE Road Name	SQF Road ID/Name	Road Start/End	Approx. Length (feet)	Approx. Road Width (feet)	Surface	Land Ownership	Gate
Sandbox Access Road	--	Mountain Road 99/Sandbox	709	16	Aggregate	SQF	Yes
Tunnel 1/4 Flume Access Road	23S20 –Roads End G.S.	Mountain Road 99/Tunnel 1/4 Flume	198	12	Paved/ Aggregate	SQF	No
Tunnels 5-8A Access Road	--	Mountain Road 99/Tunnel 8B Access Road	12,331	12	Native	SQF	No
Tunnel 8A/8B Flume Access Road	--	Rincon Access Road/Tunnel 8A/8B Flume, Tunnel 8B Portal	2,387	12	Native	SQF	No
Salmon Creek Diversion Access Road	--	Rincon Access Road/Salmon Creek Diversion	1,128	12	Native	SQF	No
Rincon Access Road	24S89-Rincon (portion)	Mountain Road 99/Tunnels 10-12 Access Road	6,410	12	Native	SQF	No
Tunnel 9A/9B Flume Access Road	--	Rincon Access Road/Tunnel 9A/9B Flume	127	12	Native	SQF	No
Tunnel 9B Spur Road	24S89-Rincon (portion)	Rincon Access Road/end	758	12	Native	SQF	No
Tunnels 10-12 Access Road	--	Rincon Access Road/Tunnel 11/12 Flume	3,050	12	Native	SQF	No
Tunnel 10/11 Flumes Access Road	--	Tunnels 10-12 Access Road/Tunnel 10/11 Flumes	175	12	Native	SQF	No

SCE Road Name	SQF Road ID/Name	Road Start/End	Approx. Length (feet)	Approx. Road Width (feet)	Surface	Land Ownership	Gate
Rincon Trail Access Road	33E23	Mountain Road 99/Rincon Access Road	3,644	12	Native	SQF	No
Rincon Trail Access Road Spur	--	Mountain Road 99/Rincon Access Road	829	12	Native	SQF	No
Tunnel 12/13 Flume Access Road	--	Gold Ledge Access Road/Tunnel 12/13 Flume, portals	3,351	12	Native	SQF	No
Gold Ledge Access Road	--	Mountain Road 99/Tunnel 13/15 Flumes, portal	4,436	12	Native	SQF	No
Tunnel 14/15 Flume Access Road	--	Gold Ledge Access Road/Tunnel 14/15 Flume, portals	2,693	12	Native	SQF	No
Tunnel 16/17 Flume Access Road	--	Corral Creek Flumes Access Road/Tunnel 16/17 Flume, portal	5,818	12	Native	SQF	No
Corral Creek Flumes North Access Road	--	Corral Creek Diversion Access Road/Corral Creek Flumes	1,082	12	Native	SQF	No
Corral Creek Diversion Access Road	--	Mountain Road 99/Corral Creek Diversion	8,207	12	Native	SQF	No
Corral Creek Flumes South Access Road	--	Corral Creek Diversion Access Road/Corral Creek Flumes	1,165	12	Native	SQF	No
Tunnel 18/19 Flume Access Road	--	Mountain Road 99/Tunnel 18/19 Flume, portal	5,908	12	Native	SQF	No

SCE Road Name	SQF Road ID/Name	Road Start/End	Approx. Length (feet)	Approx. Road Width (feet)	Surface	Land Ownership	Gate
Tunnel 19/20 Flumes Access Road	--	Tunnel 18/19 Flume Access Road/Tunnel 19/20 Flumes, portal	883	12	Native	SQF	No
Cannel "Brush" Creek Siphon Spillway Access Road	--	Cannel “Brush” Creek Access Road/Cannel “Brush” Creek Siphon Spillway	6,455	12	Native	SQF	No
Cannel "Brush" Creek Access Road	--	Mountain Road 99/Brush Creek Siphon-Siphon Spillway Access Road	5,446	12	Native	SQF	No
Cannel "Brush" Creek Siphon Access Road	--	Cannel “Brush” Creek Access Road/Cannel “Brush” Creek Siphon	941	12	Native	SQF	No
Kern River No. 3 Forebay Access Road	--	Mountain Road 99/Kern River No. 3 Forebay	8,334	12	Native/ Concrete		No
Kern River No. 3 Machine Shop Access Road	--	Mountain Road 99/Kern River No. 3 Powerhouse	1,445	16	Paved	SQF SCE	Yes
Kern River No. 3 Penstocks North Access Road	--	Mountain Road 99/Kern River No. 3 Penstocks	1,300	12	Native		No
Kern River No. 3 Penstocks South Access Road	--	Mountain Road 99/Kern River No. 3 Penstocks	1,157	12	Native		No
Chlorinator House Access Road	--	Mountain Road 99/Chlorinator House and Water Tanks	821	12	Native	SQF	No

SCE Road Name	SQF Road ID/Name	Road Start/End	Approx. Length (feet)	Approx. Road Width (feet)	Surface	Land Ownership	Gate
Kern River No. 3 Powerhouse Access Road	--	Mountain Road 99/Kern River No. 3 Powerhouse	3,053	16	Paved	SQF SCE	Yes
Kern River No. 3 Warehouse Access Road	--	Kern River No. 3 Powerhouse Access Road/Kern River No. 3 Warehouse	1,003	16	Paved	SCE	No
Kern River No. 3 Campus Access Road	--	Mountain Road 99/Kern River No. 3 Powerhouse	806	16	Paved	SQF	Yes
Kern River South Garage Access Road	--	Mountain Road 99/Kern River South Garage	377	12	Native	SQF	No

FERC = Federal Energy Regulatory Commission; SCE = Southern California Edison Company; SQF = Sequoia National Forest

APPENDIX B
MAP SERIES

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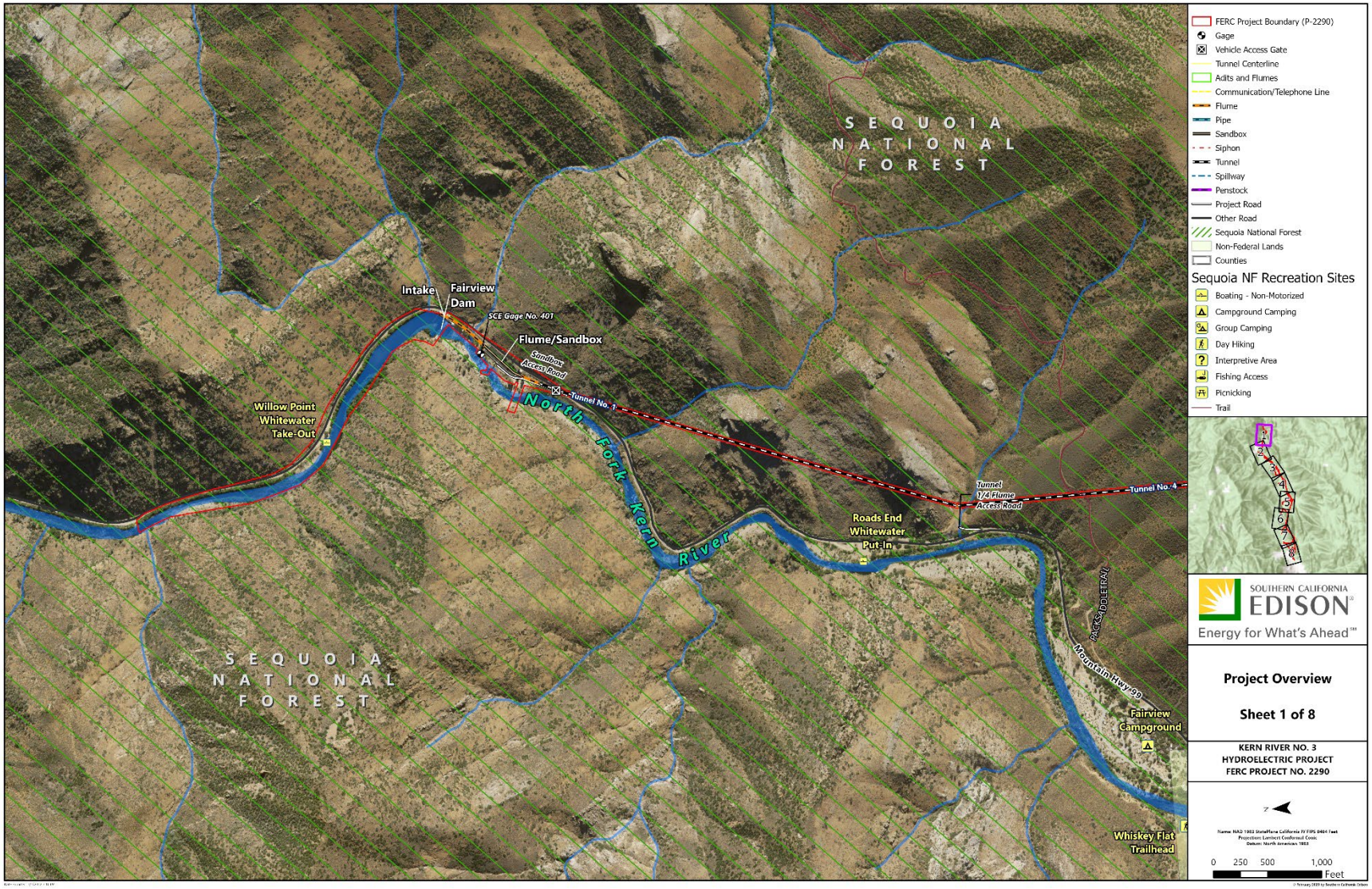
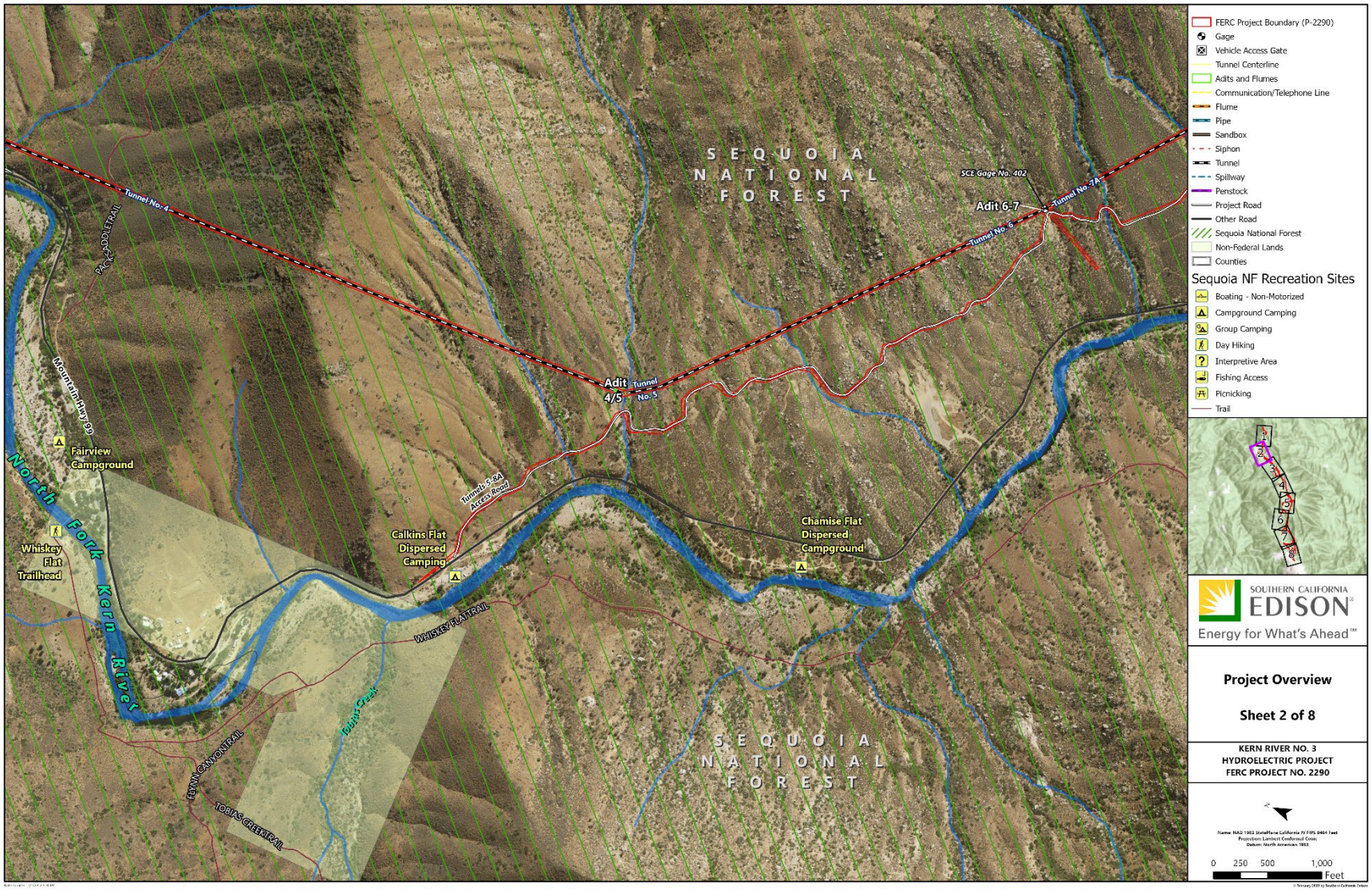

SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
Intake
Fairview Dam
SCE Gage No. 401
Flume/Sandbox
Sandbox Access Road
Tunnel No. 1
North Fork Kern River
Willow Point Whitewater Take-Out
Tunnel No. 4
Tunnel 1/4 Flume Access Road
Roads End Whitewater Put-In
PACKSADDLE TRL
Mountain Hwy 99
Fairview Campground
Whiskey Flat Trailhead
FERC Project Boundary (P-2290)
Gage
Vehicle Access Gate
Tunnel Centerline
Adits and Flumes
Communication/Telephone Line
Flume
Pipe
Sandbox
Siphon
Tunnel
Spillway
Penstock
Project Road
Other Road
Sequoia National Forest
Non-Federal Lands
Counties
Sequoia NF Recreation Sites
Boating - Non-Motorized
Campground Camping
Group Camping
Day Hiking
Interpretive Area
Fishing Access
Picnicking
Trail
SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead™
Project Overview
Sheet 1 of 8
KERN RIVER NO. 3
HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290
0 250 500 1,000
Feet


SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
Tunnel No. 4
Tunnel No. 6
Tunnel No. 7A
SCE Gage No. 402
Adit 6-7
Adit 4/5
Tunnel No. 5
Tunnels 6-8A Access Road
PACK SADDLE TRAIL
Mountain Hwy 99
Fairview Campground
North Fork Kern River
Whiskey Flat Trailhead
Calkins Flat Dispersed Camping
Chamise Flat Dispersed Campground
WHISKEY FLAT TRAIL
Dutch Creek
FISH CANYON TRAIL
TOBIAS CREEK TRAIL
FERC Project Boundary (P-2290)
Gage
Vehicle Access Gate
Tunnel Centerline
Adits and Flumes
Communication/Telephone Line
Flume
Pipe
Sandbox
Siphon
Tunnel
Spillway
Penstock
Project Road
Other Road
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Sequoia NF Recreation Sites
Boating - Non-Motorized
Campground Camping
Group Camping
Day Hiking
Interpretive Area
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Picnicking
Trail
SOUTHERN CALIFORNIA EDISON
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0 250 500 1,000
Feet


SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
Salmon Creek Diversion & Pipeline
SCE Gage No. 414
SCE Gage No. 402
Adit 6-7
Adit 7B/8A
Adit 8A/8B
Adit 8B/9A
Adit 9A/9B
Adit 9B/10
Tunnel No. 6
Tunnel No. 7A
Tunnel No. 7B
Tunnel No. 8A
Tunnel No. 8B
Tunnel No. 9A
Tunnel No. 9B
Tunnel No. 10
Tunnel No. 11
Tunnel No. 12
Tunnel 6-7A Access Road
Tunnel 8A/8B Flume Access Road
Salmon Creek Diversion Access Road
Tunnel 9B Spur Road
Tunnel 10-12 Access Road
Rincon Trailhead
Rincon Trail Access Road Spur
Rincon Trail Access Road
Ant Canyon Dispersed Camping
Mountain Hwy 99
North Fork Kern River
WHISKEY FLAT TRAIL
WHISKEY FLAT TRAIL
WHISKEY FLAT TRAIL
RINCON TRAIL
Salmon Creek
FERC Project Boundary (P-2290)
Gage
Vehicle Access Gate
Tunnel Centerline
Adits and Flumes
Communication/Telephone Line
Flume
Pipe
Sandbox
Siphon
Tunnel
Spillway
Penstock
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KERN RIVER NO. 3
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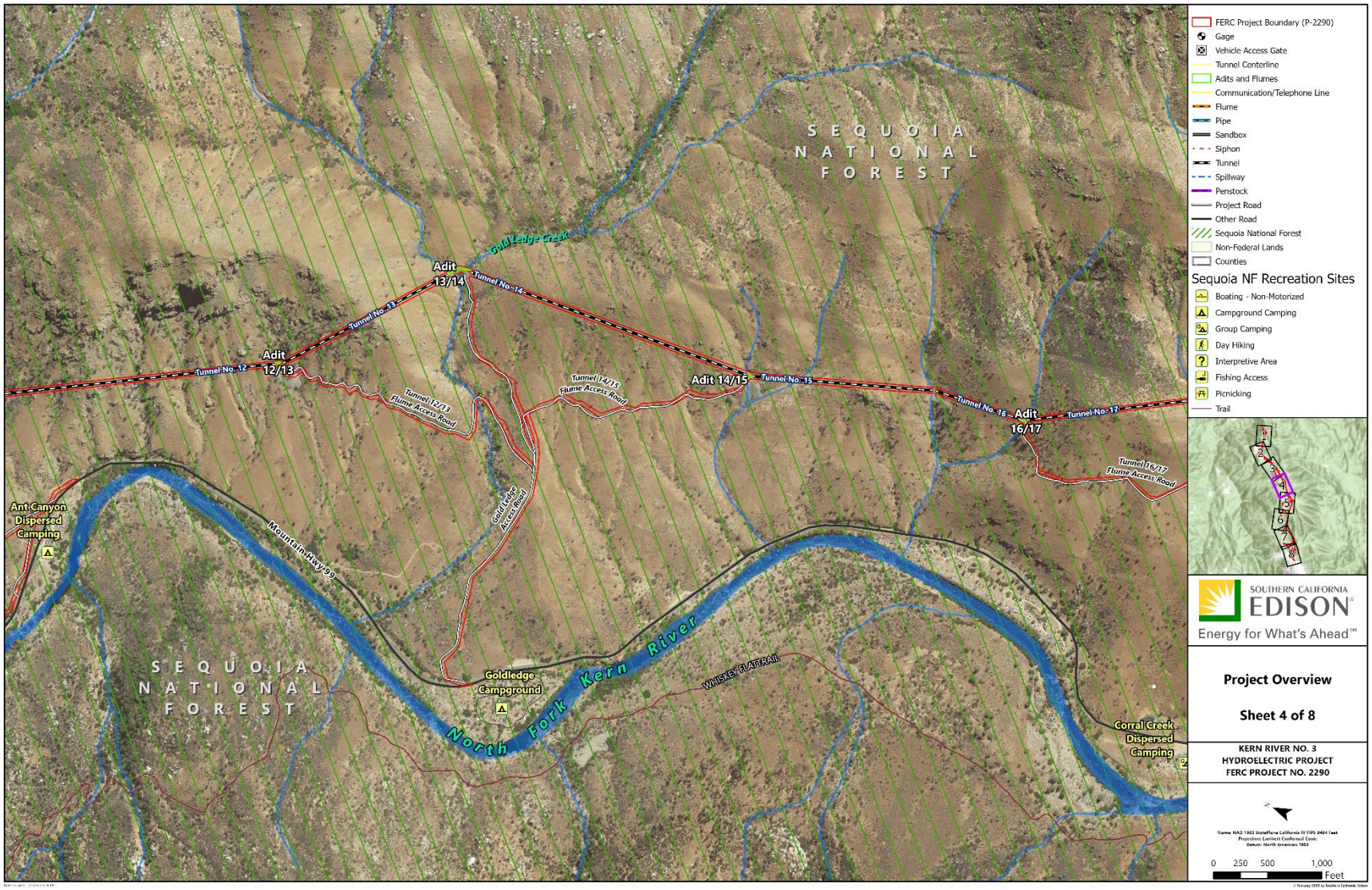
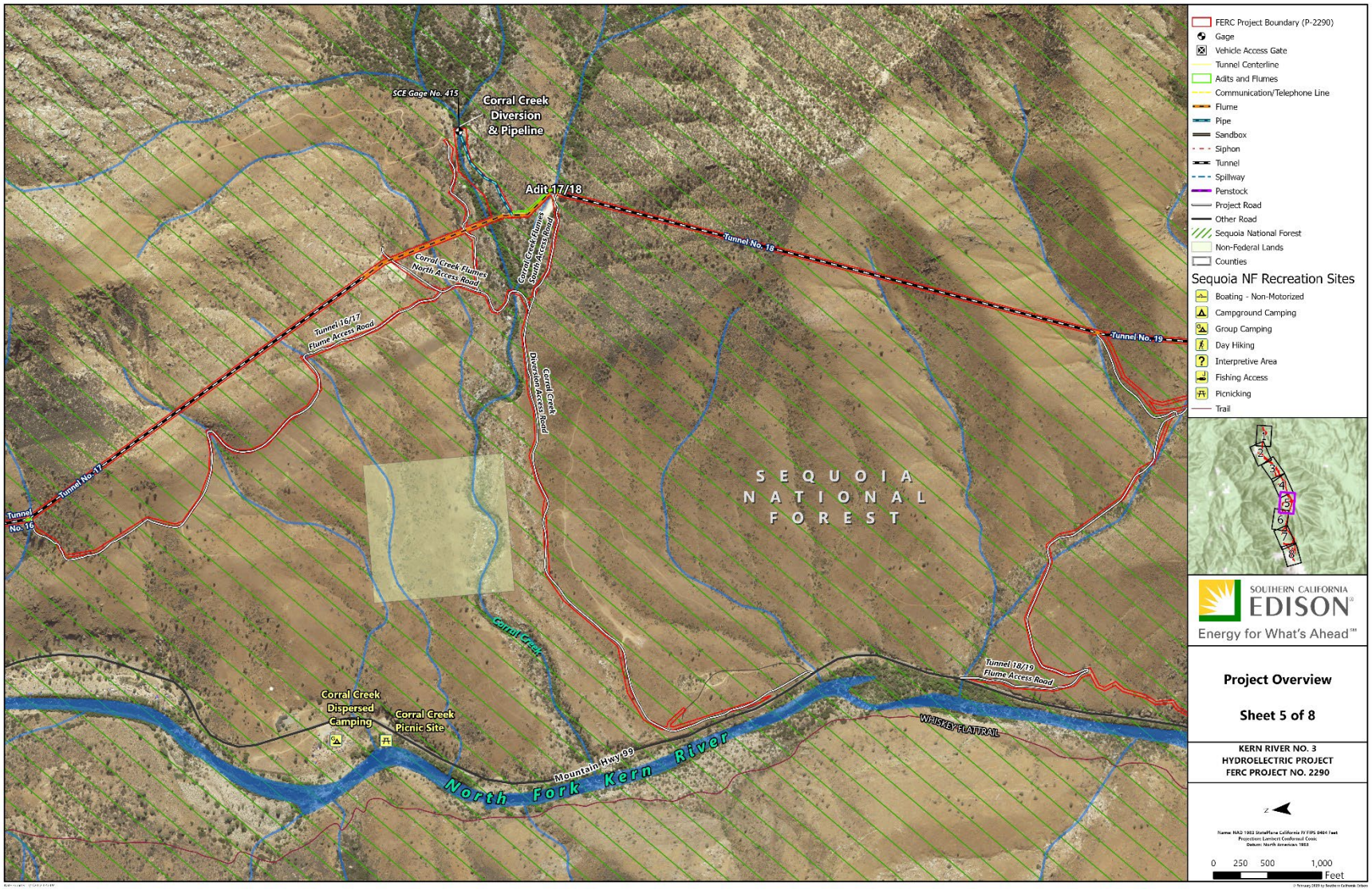
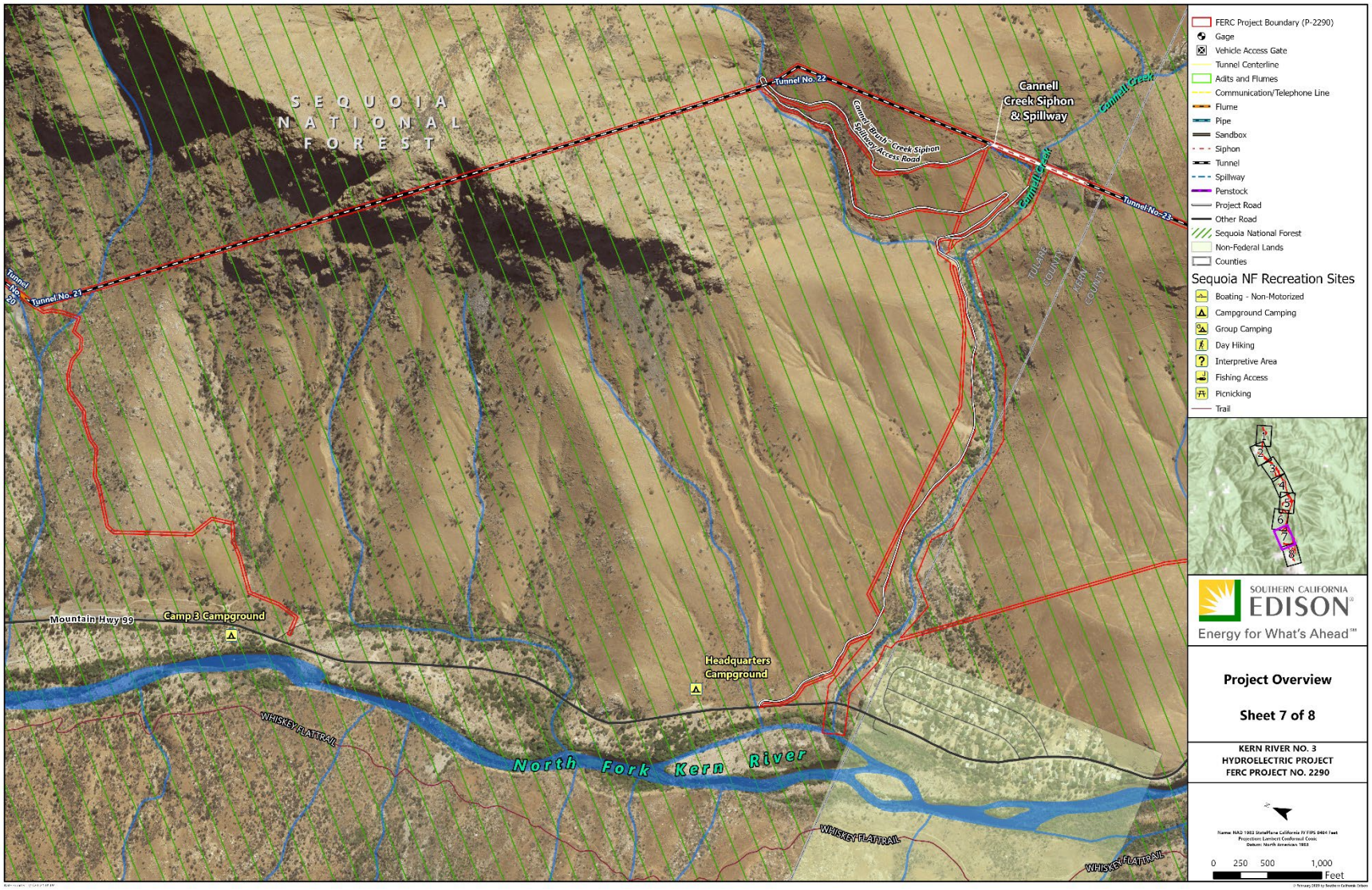
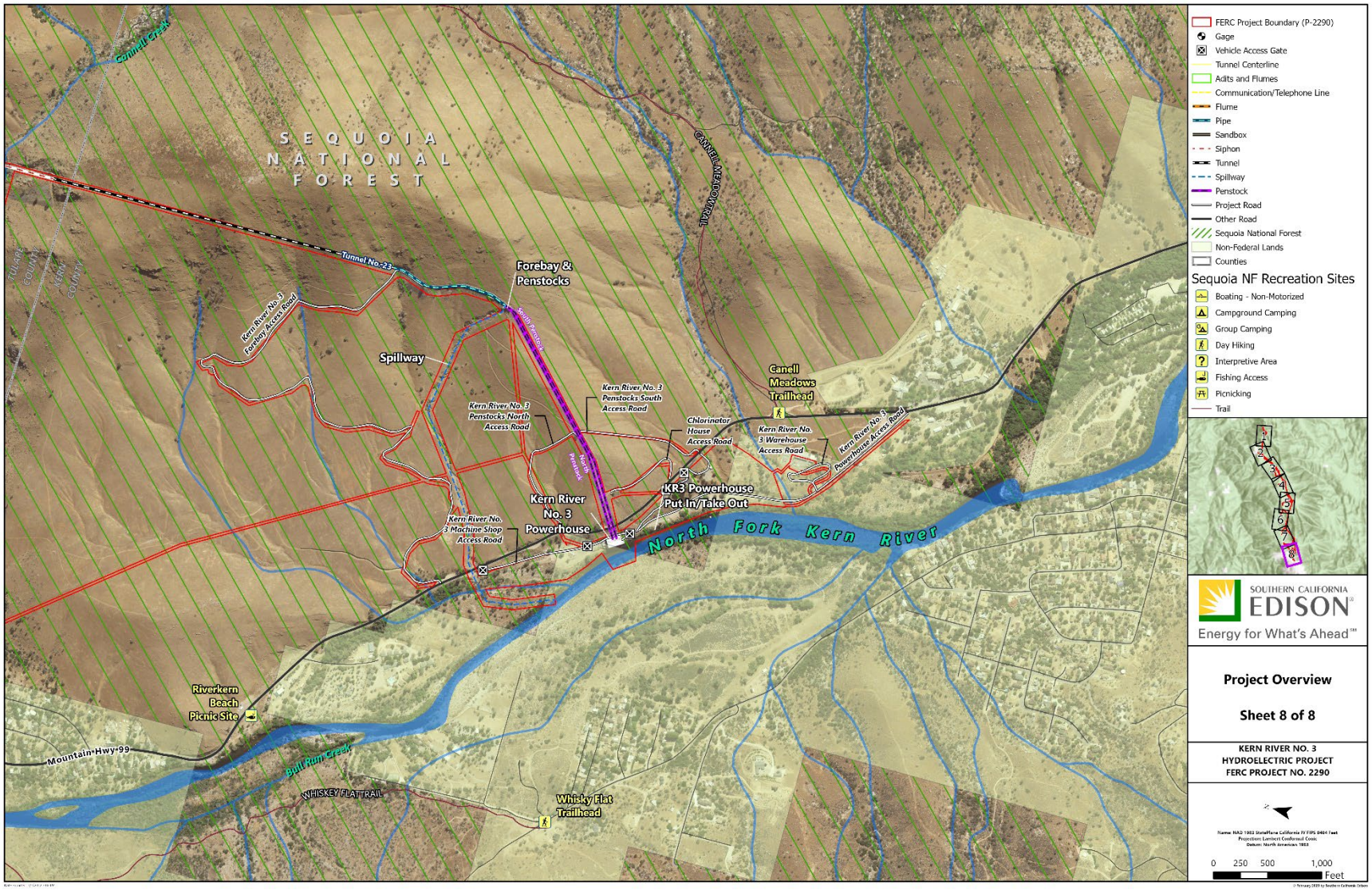
FERC PROJECT NO. 2290
0 250 500 1,000
Feet









GEO-1 EROSION AND SEDIMENTATION STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Kern River No. 3 Hydroelectric Project (Project) routine operation and maintenance (O&M) activities have the potential to contribute to erosion and sediment delivery to adjacent drainages.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

- Routine Project O&M activities have the potential to increase erosion and sediment delivery to nearby drainages. Runoff from hard surfaces such as roads and structures can cause surface erosion and potentially contribute to mass wasting. Refer to Study Plan *LAND-1, Road Condition Assessment*, regarding an evaluation of Project and Shared Access Roads that are used to access Project facilities to conduct O&M activities. Eroded soil and debris can affect water quality (e.g., turbidity), stream channel geomorphology, and aquatic habitats if delivered directly to waterbodies or stream channels. The use of Project dam spillways and dam outlet release facilities can cause erosion in the area near the point of discharge, resulting in potential effects to the downstream stream channel and aquatic habitats.

- Additional data are needed to characterize the potential for increased erosion at Project facilities due to routine O&M activities.

3.0 STUDY GOALS AND OBJECTIVES

This study will include a reconnaissance level inventory and assessment of erosion and sedimentation to identify the extent to which Project facilities—including structures—are contributing to erosion. This study will inform the assessment of potential effects of erosion and sedimentation caused by Project operations and/or runoff from Project-related facilities and/or other hard surfaces.

4.0 STUDY AREA AND STUDY SITES

The study area includes Project facilities and features. A road assessment, including documentation of road-side erosion, is addressed in Study Plan LAND-1, *Road Condition Assessment*. Specific study sites include:

- Project spillways, including Kern River No. 3 Powerhouse Spillway and Cannell Creek Siphon Spillway.

- Project diversions, including Fairview Dam, Salmon Creek Diversion, and Corral Creek Diversion.

- Uncovered Conveyance Flowline flume segments.

- Project-related buildings and parking areas, including the KR3 Powerhouse.

- Project spoil piles.

5.0 EXISTING INFORMATION

The Kern River No. 3 Pre-Application Document (July 2021) reviewed existing, relevant, and reasonably available information associated with erosion in the Project Area. As there are no major proposed changes to the existing Project, sources of erosion and sedimentation include routine activities associated with maintenance (e.g., dam and diversion structures, the water conveyance system, and buildings), minor improvements (e.g., removing accumulated sediment/large debris from the diversion pools), and operation of the existing Project (e.g., spillways and other release locations).

Previous assessments identified the potential for erosion associated with the spill channel located between the KR3 Powerhouse forebay structure and the North Fork Kern River. Southern California Edison Company (SCE) stabilized the section by placing riprap along 200 to 300 feet of the spill channel (FERC, 1996). SCE also developed a comprehensive erosion control plan in 1997 in response to License Article 401 and Forest Service Condition 7 (SCE, 1997). The plan includes application of erosion-control structures as protective measures against erosion, including structures such as riprap and rock in areas prone to significant flows and in areas prone to erosion.

6.0 STUDY APPROACH

The study methods will consist of the following three tasks:

Task 1: Desktop Review

Conduct an initial review of maps, geological and soils data, construction O&M records, and interviews with maintenance personnel to provide information about the locations, causes, and relative severity of past erosion, as well as potential sediment delivery to streams and reservoirs.

Task 2: Geomorphic Interpretation

Topographic maps, historical aerial photographs, 2020 UAV imagery and videos, and any available LiDAR data will be reviewed to provide the geomorphic context for the Project Area and identify areas of past and active erosion in the vicinity of Project structures and roads.

Task 3: Field Surveys

Field surveys will be performed to document erosion from Project-related sources and the potential for sediment delivery to streams. Field methods will be adapted from relevant guidance documents regarding erosion inventory and sediment control in California and the Pacific Northwest (CDFG, 2010; USFS, 2012; Weaver et al., 2014). Documentation of erosion condition at sites will include: (1) location of site mapped using submeter global navigation satellite system (GNSS), (2) photo documentation, (3) description of erosion processes, (4) estimate volume of eroded material and delivery potential, (5) estimate historic erosion rates and potential future erosion. Erosion volumes will be visually

estimated or recorded with measurements of average dimension (length, width, depth) where appropriate.

Task 4: Analysis

An assessment of erosion and sediment delivery potential will be made for each site based on data collected during Task 3. Sediment delivery volumes will be estimated and future erosion potential will be categorized based on the potential for sediment delivery to streams or reservoirs. Slopes and soil types identified as potentially unstable will be included, as appropriate. A geographic information system (GIS) map will be prepared to show the locations of all features identified during the inventory.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. Standard GIS shapefiles, including metadata, will be provided to relevant agencies upon request. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

Date	Activity
Spring 2023	Conduct Tasks 1–3: Desktop Review, Geomorphic Interpretation, and Field Surveys
Summer 2023	Analyze data and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

ISR = Initial Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $52,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

CDFG (California Department of Fish and Game). 2010. *California salmonid stream habitat restoration manual.* Fourth edition. Wildlife and Fisheries Division.

Federal Energy Regulatory Commission. 1996. *Environmental Assessment for Hydropower License*. Kern River No. 3 Hydroelectric Project. FERC Project No. 2290.

Southern California Edison. 1997. *Plan for Control of Erosion, Stream Sedimentation, Soil Mass Movement, and Dust*. Kern River No. 3 Hydroelectric Project FERC No. 2290.

USFS (U.S.) Forest Service. 2012. "National Best Management Practices for Water Quality Management on National Forest System Lands (FS-990a)." Volume 1: *National Core BMP Technical Guide*. April 2012. Available at: https://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf

Weaver, W., E. Weppner, and D. Hagens. 2015. *Handbook for Forest, Ranch, and Rural Roads.* Prepared for the Mendocino County Resource Conservation District.

SOCIO-1 SOCIOECONOMIC ANALYSIS STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

- Contribution of the Kern River No. 3 (KR3) Project Area recreation and tourism to the local economy.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

This study will analyze the economic benefits to the surrounding community of the current river-related recreation in the Fairview Dam Bypass Reach.[1] The study will also provide context for these economic benefits by characterizing the contribution of outdoor recreation in the greater surrounding area (e.g., Isabella Lake, other reaches of the North Fork Kern River [NFKR]) to the economy of the local community.

The results of this study will be used to support SCE Application for New License and Federal Energy Regulatory Commission FERCs NEPA analysis.

3.0 STUDY GOALS AND OBJECTIVES

- Quantify and qualify recreation expenditures for river-related recreation in the bypass reach from data collected in the *REC-2 Recreation Facilities Use Assessment Study Plan*, including contributions to the local economy resulting from tourism and recreation.

- Qualify outdoor recreation expenditures in the surrounding area outside of the bypass reach using publicly available data, such as the National Visitor Use Monitoring (NVUM) data for Sequoia National Forest (SQF).

- Contextualize the contribution of the bypass reach recreation relative to the overall contribution of recreation in the area.

4.0 STUDY AREA AND STUDY SITES

The study area for this desktop review will primarily focus on recreation-related activity within and around the Project Area (Figure 4-1), including but not limited to:

- Fairview Dam Bypass Reach between Fairview Dam and the KR3 Powerhouse tailrace;

- Areas within the Sequoia National Forest in the Project Vicinity, such as North Fork Kern River upstream of the Project, Isabella Lake, and the main stem of the Kern River;

- Nearby towns, including Kernville, Woodford Heights, and Lake Isabella.

[1] The Fairview Dam Bypass Reach is defined as the 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse trailrace.

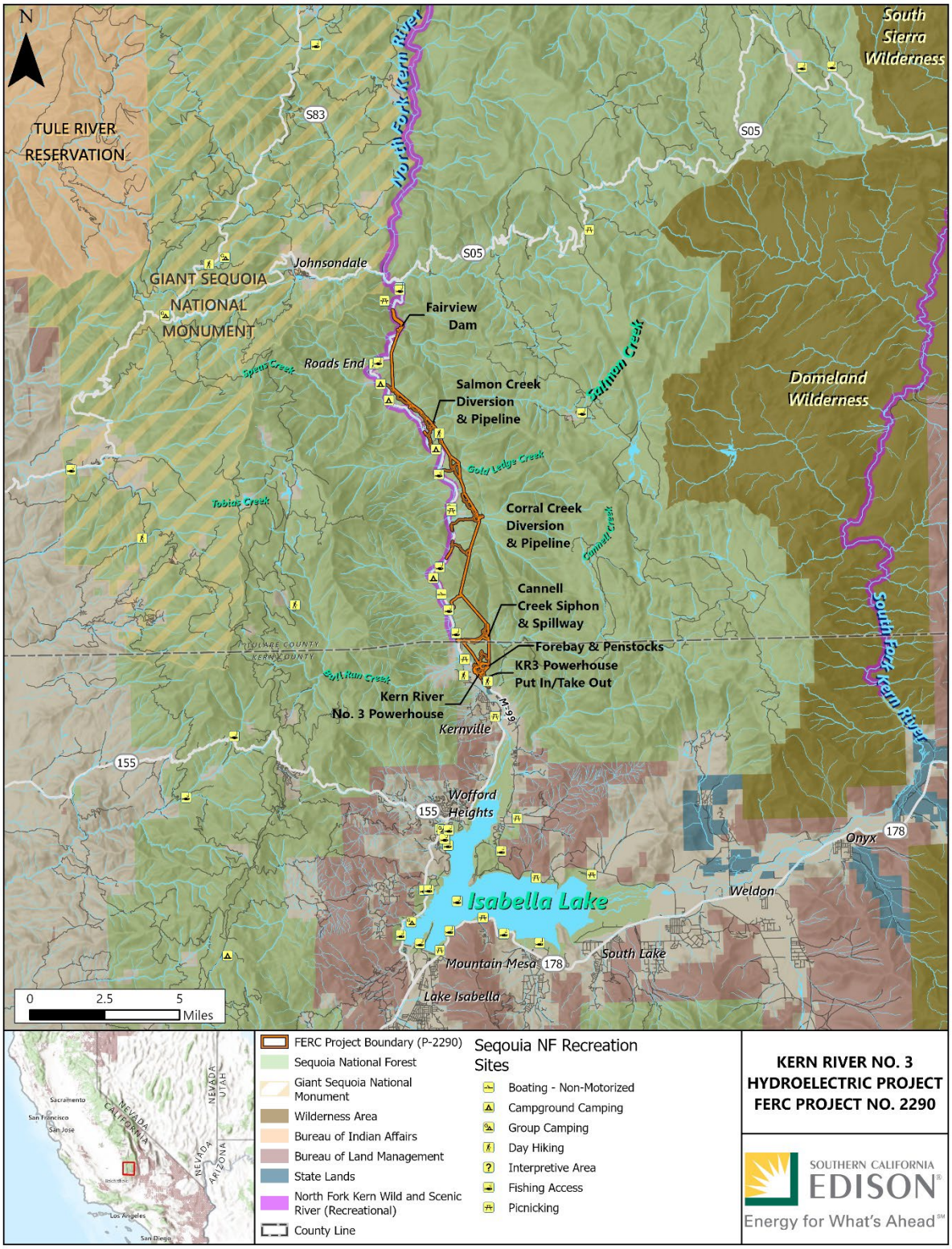

Figure 4-1. Sequoia National Forest Recreation Sites in the Vicinity of the KR3 Project.

5.0 EXISTING INFORMATION

The following information was included as part of SCE's Pre-Application Document (PAD), Section 5.12, *Socioeconomic Resources*:

- Land use patterns
- Population patterns
- Housing
- Economic indicators
- Employment

6.0 STUDY APPROACH

A desktop review of available recreation-based socioeconomic data will be compiled using a combination of data from data collection at the site, existing publicly available data sources, and, if needed, benefits transfer from existing literature sources. This study will estimate the recreation-based expenditures associated with the NFKR and the surrounding areas.

As necessary and available, the analysis will use the following:

- Information obtained from the visitor intercept survey as proposed in the *REC-2 Recreation Facilities Use Assessment Study Plan*, including but not limited to the estimated number and type of recreation trips that occur in the Fairview Dam Bypass Reach and the expenditures made by recreators;
- The NVUM recreation and expenditure data for SQF;
- SQF Concessionaire data;
- Isabella Lake recreation and expenditure data;
- Literature studies and government reports on recreation activity and expenditures by type of recreation;
- Census data; and
- IMPLAN input-output modeling software.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the

data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

SCE is proposing to conduct this study during the course of 1 study year as outlined below.

Date	**Activity**
Summer–Fall 2023	Compile desktop information on local economy and visitor use information collected as part of *REC-2 Recreation Facilities Use Assessment*
August 2023	Provide Study Plan progress and schedule update with ISR
Winter 2023/2024	Analyze data and prepare Technical Memo
August 2024	Provide Technical Memo with USR

ISR = Initial Study Report; USR = Updated Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $35,000, which includes study-specific consultation, field work, data compilation and analysis, and reporting.

10.0 REFERENCES

None.

OPS-1 TUNNEL ASSESSMENT STUDY PLAN

KERN RIVER NO. 3 HYDROELECTRIC PROJECT
FERC PROJECT NO. 2290

PREPARED FOR:

KERNVILLE, CALIFORNIA

March 2022

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1.0 POTENTIAL RESOURCE ISSUE

Routine cycling of flows (i.e., dewatering and refilling) in the Kern River No. 3 (KR3) Hydroelectric Project (Federal Energy Regulatory Commission [FERC] Project No. 2290) tunnel has the potential to effect tunnel integrity.

2.0 PROJECT NEXUS AND HOW THE RESULTS WILL BE USED

Tunnel maintenance flows are required to maintain tunnel integrity and prevent unplanned outages. Results from the tunnel assessment will validate the need for tunnel maintenance flows.

3.0 STUDY GOALS AND OBJECTIVES

Validate that tunnel maintenance flows and tunnel flow cycling procedures are needed to protect tunnel integrity for long-term Project operations.

4.0 EXTENT OF STUDY AREA AND STUDY SITES

The study area includes the underground tunnel segments along the approximately 13 miles of water conveyance flowline from Fairview Dam to the KR3 Forebay.

5.0 EXISTING INFORMATION

The Project's water conveyance flowline includes approximately 60,270 feet of below-ground tunnels that include 24 tunnel segments that vary in length from several hundred feet to over 1 mile. The tunnel segments range in size from 8.5 feet wide by 8 feet high to 9.5 feet wide by 8 feet high. The floors and sides of the tunnel are lined with concrete, and the arched ceiling of the tunnel is lined only where rock appears to be unstable. Tunnel portal access points, or adits, are situated at various tunnel or tunnel/flume junctions along the flowline.

6.0 STUDY APPROACH

With support from a qualified engineer, SCE will conduct a desktop analysis summarizing current and available information on the Project tunnels as well as any readily available industry guidance on flow cycling in tunnels. The information to be collected and summarized may be obtained from:

- SCE documents including as-built drawings, descriptions of recent refurbishment work conducted on the tunnels, and any recent inspection reports.
- SCE's operational practices when cycling tunnel flows during Project operations or during tunnel dewatering for routine maintenance outages.
- Literature review of studies on tunnel structural integrity and long-term effects of cycling tunnel flows.

7.0 REPORTING

SCE will file an Initial Study Report (ISR) within 1 year following FERC's Study Plan Determination (estimated August 3, 2023) and an Updated Study Report (USR) no later than 2 years after FERC's Study Plan Determination. The ISR and USR will provide an update on SCE's overall progress in implementing the Study Plan and schedule and the data collected, including an explanation of any variance from the Study Plan and schedule. A Technical Memo will be appended to either the ISR or USR filing, as applicable. The information provided in the Technical Memo will be summarized in, and appended to, the Application for New License.

In addition, SCE may prepare interim reports during the study year to apprise Stakeholders on study implementation progress and to support consultation with Stakeholders.

8.0 SCHEDULE

SCE is proposing to conduct this study during the course of one study year as outlined below.

Date	Activity
Winter 2022/2023	Conduct desktop analysis and prepare Technical Memo
August 2023	Provide Technical Memo with ISR

ISR = Initial Study Report

9.0 LEVEL OF EFFORT AND COST

The estimated cost (2022 dollars) for the study is $20,000, which includes study-specific consultation, data compilation and analysis, and reporting.

10.0 REFERENCES

None.

ATTACHMENT 2
STAKEHOLDERS WHO FILED COMMENT LETTERS WITH FERC

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List of Stakeholder comment letters and study requests regarding the Kern River No. 3 Hydroelectric Project Relicensing filed with FERC between December 20, 2021, and January 21, 2022.

Submission Date	**Filing Party**
December 20, 2021	Thomas Livingstone
January 17, 2022	Neil Nikirk*
January 17, 2022	Neil Nikirk*
January 18, 2022	Lacey Anderson
January 17, 2022	Robert Nash
January 18, 2022	John Neff
January 18, 2022	Blake Foster
January 18, 2022	Richard Arner
January 18, 2022	Eugene Hacker
January 18, 2022	Anatoly B Muchnikov
January 19, 2022	Brian Kohl
January 19, 2022	Eric Kroh
January 19, 2022	James F Ahrens
January 19, 2022	Eric Giddens / Kern River Brewing Company
January 19, 2022	Ben Skye-Babbott
January 19, 2022	Samuel Raskin
January 19, 2022	Sean Naugle
January 19, 2022	Henry Sweat
January 19, 2022	Richard Norman
January 19, 2022	David Packard
January 19, 2022	Lawrence Elman*
January 19, 2022	Lawrence Elman*
January 19, 2022	Elizabeth Duxbury
January 19, 2022	John Warnshuis
January 19, 2022	Jenna
January 19, 2022	Heather Ford
January 19, 2022	John Garee
January 20, 2022	Ross Allen
January 20, 2022	Kent Varvel
January 20, 2022	Deborah Harris

Submission Date	Filing Party
January 20, 2022	Lacey Anderson
January 20, 2022	Benjamin Karp
January 20, 2022	Amin Nikravan
January 20, 2022	Juan Zwolinski
January 20, 2022	Kern River Fly Fishers
January 20, 2022	Kern River Fly Fishers
January 20, 2022	Kern River Outfitters
January 20, 2022	Nina F
January 20, 2022	Alex Koutzoukis
January 20, 2022	Jose Burgos
January 20, 2022	Elizabeth Jens
January 20, 2022	Ralph Day
January 20, 2022	James R Spring
January 20, 2022	Geoffrey Charles Jennings
January 20, 2022	Jose L Pino
January 20, 2022	Dennis Rushing
January 20, 2022	Barbara Rice / National Park Service Pacific West Region
January 20, 2022	Bridget Crocker
January 20, 2022	Theresa L Lorejo-Simsiman / American Whitewater
January 20, 2022	Teresa Benson / United States Department of Agriculture Forest Service Pacific SW Region
January 20, 2022	James R Proctor
January 20, 2022	Richard P. Norman
January 20, 2022	Nicholas Pocquette
January 20, 2022	James L. Schrodt
January 20, 2022	Anthea Raymond
January 20, 2022	Kern River Boaters
January 20, 2022	Andrea Sellers / California State Water Resources Control Board
January 20, 2022	Jeff Johnson
January 20, 2022	Jacqueline L Bell-Nichols
January 20, 2022	Michael Farrell
January 20, 2022	Michael Pechtel

Submission Date	**Filing Party**
January 20, 2022	Bryan S. Batdorf / Kernville Chamber of Commerce
January 20, 2022	Dale Murphy
January 21, 2022	Sarah Samples / U.S. Environmental Protection Agency
January 21, 2022	Chris Brown / Whitewater Voyages
January 21, 2022	Lynn Siodmak

* Two letters were filed on the same day by the same person.

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ATTACHMENT 3
EMAIL FROM CDFW DATED FEBRUARY 22, 2022

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***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

***** EXTERNAL EMAIL WITH ATTACHMENT - BE CAREFUL NOT TO OPEN IF THIS DOCUMENT IS NOT EXPECTED OR TRUSTED *****

Hi David,

As per our letter last month: “An accurate timeline for reoperation of the pipeline, and thus, Hatchery operation, has not yet been set…” (attached). The CDFW will notify SCE when Kern Hatchery diversions are set to resume.

Best,

--
Abimael (Abi) **León**, Ph.D.
--
Senior Environmental Scientist (Specialist)
California Department of Fish and Wildlife
Central Region (Region 4) FERC Coordinator
Ecosystem Conservation Division
Habitat Conservation Planning Branch
Environmental Planning and Review
1130 East Shaw Avenue,
Fresno, CA 93710
E-mail: Abimael.Leon@wildlife.ca.gov
--

From: David Moore <David.Moore@sce.com>
Sent: Friday, February 18, 2022 2:56 PM
To: Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>
Subject: Kern River No. 3 (P-2290) FERC Additional Information Request

Hi Abimael,

SCE received the attached Additional Information Request (AIR) from FERC regarding the Kern No. 3 Pre-Application Document. Item 3 of the AIR seeks clarification on the current operating status of the Kern River Hatchery and any available information on future operation of the hatchery. The CDFW notification filed with FERC on January 7, 2022 states that an accurate timeline for reoperation of the pipeline and hatchery has not yet been set. Please advise if the timing of repairs to the pipeline have been determined in order for the hatchery diversions to resume.

Thank you,

David Moore
Generation | Hydro Licensing
Southern California Edison
T. 626-302-9494 | M. 626-861-5918 (new)

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

January 7, 2022

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
888 First Street, NE.
Washington, DC 20426

Dear Ms. Bose and Mr. Davis:

NOTIFICATION OF TEMPORARY SHUTDOWN OF KERN RIVER PLANTING BASE PIPELINE AT KERN RIVER NO. 3 HYDROELECTRIC PROJECT (P-2290-000)

The California Department of Fish and Wildlife (CDFW or Department) is contacting the Federal Energy Regulatory Commission (FERC) and Southern California Edison (SCE or Licensee) regarding a letter sent to Gilbert Ditch Association, care of Tony Click, on January 5, 2022, regarding the temporary shutdown of the pipeline (e.g., siphon) serving the Kern River Planting Base Hatchery (Hatchery) adjacent to Kern River No. 3 Hydroelectric Project (P-2290-000 or Project) in Kern County, California.

The intent of the letter was to inform the Gilbert Ditch Association that the pipeline will remain inoperable during the temporary closure of the Hatchery, which was initiated on December 1, 2020, to complete repairs and improvements to a failing and unreliable water supply.

For context, on December 24, 1996, FERC issued a new license for this Project. On December 19, 2003, the Forest Service filed revised conditions under section 4(e) of the Federal Power Act to be included in the license to avoid or mitigate impacts caused by proposed Project operations. On May 12, 2004, FERC issued an order including Forest Service Condition No. 4 to establish minimum streamflow requirements. Condition No. 4 provides that SCE shall provide 35 cubic feet per second (cfs) flow diverted at Fairview Dam, through the Powerhouse tailrace to CDFW's Hatchery. If operations at the Hatchery change, then CDFW may specify that the 35 cfs not be diverted at Fairview Dam. Pursuant to this provision and the current state of Hatchery operations, CDFW requests that the 35 cfs not be diverted at Fairview Dam until the pipeline/siphon becomes operational or testing is required.

Because the Kern River flows that are typically diverted by the CDFW for Hatchery operations pursuant to Condition No. 4 of the license cannot be utilized for beneficial use at the Hatchery while inoperable, CDFW's Hatchery flow diversions and pipeline/siphon operation will not resume until pipeline repairs, improvements and testing can be completed and the Hatchery is again operational. An accurate timeline for reoperation of the pipeline, and thus, Hatchery operation, has not yet been set, but CDFW has engaged the California Department of General Services to develop the scope and timing for construction. The Department will notify the Licensee when Hatchery diversions resume.

If you have any questions or concerns, please contact the CDFW Region 4 FERC Coordinator, Abimael León at (559) 243-4014, extension 251, or by email at abimael.leon@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Julie Vance
FA83F09FE08945A...

Julie A. Vance
Regional Manager
California Department of Fish and Wildlife

ec: FERC
john.aedo@ferc.gov

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